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THE
DUBLIN JOURNAL
OF
MEDICAL SCIENCE.

EDITED BY
JOHN WILLIAM MOORE, M.D., M.Ch., UNIV. DUBL.;
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THE DUBLIN JOURNAL

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JULY 1, 1886.

PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*On the so-called Laparotomy Epidemic.*^a By THOMAS MORE MADDEN, M.D., F.R.C.S.E.; President of the Obstetrical Section of the Academy of Medicine in Ireland; Obstetric Physician, Mater Misericordiæ Hospital; sometime Vice-President, British Gynæcological Society; Physician to Hospital for Sick Children; Consulting Obstetrician, National Lying-in Hospital, Dublin, &c.

I. INTRODUCTION.

IN the hope of thus inducing the discussion of a subject which urgently demands the consideration of the Obstetric Section of our Academy, before its adjournment for the session, I desire to submit some observations on what has recently been elsewhere described as “the Laparotomy Epidemic.” With this we are distinctly concerned, for if that term be rightly applied it is our province here to oppose as far as possible any extension in this country of operations thus characterised. But if, on the other hand, some of the operations included in this term should be, as is asserted, a step in the recent progress of our art, it is no less obviously our duty to encourage their employment in appropriate cases, and within due limitations.

To determine these points, therefore, it will be well for us to take counsel together, and with this object I shall endeavour to

^a Read before the Obstetrical Section of the Academy of Medicine in Ireland, Friday, June 4, 1886.

place before you some aspects of the laparotomy question from my own point of view. I would also venture to hope that in the ensuing discussion all sides of the question may be fully, fairly, and temperately debated, and that whatever conclusions are arrived at thereon may bear the imprint of the sound professional judgment and common sense generally characteristic of the teachings and practice of the Dublin School of Medicine.

In the following observations the term laparotomy is employed in its commonly accepted, rather than in its strictly accurate, sense, and is applied to intra-peritoneal operations on the uterus or its appendages. Amongst the latter it need hardly be said that what is generally described as ovariectomy is not here included, although some reference must be made to so-called "normal ovariectomy." Nor indeed is there any further occasion for debate with regard to an operation such as ovariectomy, the value of which has been demonstrated beyond any possibility of controversy.

The most important points for our present consideration are the expediency of imitating in our practice here that frequent recourse to laparotomy which is elsewhere in vogue in affections of the uterine appendages or connected therewith, and also in the treatment of fibro-myomata and other diseases.

With regard to the increasing frequency of laparotomy for removal of uterine appendages, I would premise that, as far as from reading and experience I can form any opinion on this subject, in the first place, I would say that the ovarian and tubal diseases referred to have been long recognised, although of late years their frequency seems to be somewhat greater than was formerly the case, and at the same time their diagnosis has been facilitated. Secondly, with regard to treatment, it appears to me that in many instances those ovarian and tubal disorders for which laparotomy is now advocated may be efficiently treated without recourse to the operative procedures included in this term. At the same time it must be admitted that in certain cases these operations afford a means of saving life, or of relieving suffering formerly regarded as beyond remedy.

No one acquainted with ancient medical literature will question the continually recurring influence of fashion on medical opinion and practice in every age; nor can it be gainsaid that in successive epochs various forms of disease and methods of treatment come into and go out of vogue with almost as little reason as influences the ever-changing modes of dress. Thus, at the present time it is

as much the fashion to ascribe obscure female complaints to ovarian and tubal diseases, for which the removal of the uterine appendages is recommended, as five years ago it was the fashion to attribute similar symptoms to uterine displacements and flexions, or ten years before to set them down to uterine inflammations and ulcerations; or yet a hundred years earlier to charge them to “the spleen” or “the vapours,” each of which was in its day as prolific a supposed source of female complaints, and still more certainly of physicians’ fees, as are the disorders of the uterine appendages at the present day.

In a paper read last session I expressed the opinion that if the increasing operative zeal of abdominal sectionists was permitted to develop further without protest from those who, like myself, do not concur in their views, and if the success which has attended the bold operations of some eminent laparotomists were to lead to the wide adoption and imitation of their practice, the result would be a reaction in professional opinion that might prejudice even the employment of such operations in any appropriate cases. Within the last few months we have, I think, had proof of the verification of this observation in recent medical journals and in the transactions of medical societies.

II. INCREASE OF LAPAROTOMY.

To exemplify this I subjoin a few extracts which, although possibly *ex parte* and capable of satisfactory explanation, are yet interesting as indicating the importance at the present time attached to the laparotomy question itself, and the desirability of discussing it without prejudice, and apart from any personal or local controversies that may have been elsewhere imported into it, and concerning which we have here no special cognisance and are not competent to offer any special opinion. Hence, whilst now expressing my own views on broad general grounds on the laparotomy question, and, in exemplification, referring to particular statements elsewhere published, I shall very willingly accept any correction found necessary in them. I have always held that in controversies, concerning any suggested means of relieving human suffering or prolonging life, all personal considerations should be rigidly excluded, although I have myself on former occasions had reason to know that this view is not universally accepted. But, as “hard words break no bones,” and as vehemence of language is not synonymous with strength of argument, I have weathered the

tempest which the discussion of this question elsewhere drew upon me, and still survive not only to maintain my own convictions but also, as I hope, to treat the views of those who differ from me with due courtesy, deference, and respect. In the end it will not improbably be found that in this, as in many other controversies, the best line of practice lies between the extreme doctrines which have been proclaimed with such superabundant energy by the enthusiastic advocates of laparotomy on the one side, and hardly less forcibly resisted by those who are opposed to their views on the other.

Of the increasing frequency of laparotomy in recent gynæcological practice—as well as of the fact that this procedure is no longer regarded as one only to be adopted with cautious deliberation in cases obviously otherwise irremediable, but that, on the contrary, it is now unhesitatingly recommended for therapeutic as well as diagnostic purposes—there can be no doubt. Thus, in the last number of the *British Gynæcological Journal*, under the heading “Explorative Laparotomy,” prominence is given to the following citation:—

“There is yet room for missionary work before men and good men too can be induced to come out of their shell of conservatism so-called, and with a bold front to help to break down the prejudices and misgivings based on an ill-founded fear of the peritoneum and its behaviour under the knife. But true conservatism consists in conserving or keeping the lives of those entrusted to our keeping. In the hands of the true surgeon prompt measures of relief will naturally follow certainty of diagnosis, and none the less so because the latter may involve the carrying out of the advice that Mr. Tait is said to have given to Professor Lusk on one occasion, when grave intra-peritoneal conditions demanded a positive diagnosis—‘Cut the patient open and find out’—advice based on common sense, sound principles, and conviction, growing out of an exceptionally extensive and varying experience in the surgery of the abdomen.”^a

I would commend this letter to the consideration of the Academy, and ask those present whether they acquiesce with the views quoted? or whether the majority of them still think, as I do, that to lay open the abdominal cavity, merely for explorative purposes, appears a procedure which would necessarily expose the patient to the certain risk, however small that may be, of such an operation for what, under these circumstances, must be but a possibility of benefit?

Within the past few months the laparotomy question has been

^a George R. Fowler, M.D., New York Medical Journal.

brought prominently forward in medical journals and societies. For example, in the *Provincial Medical Journal* of 1st February, 1886, it is said—"Thus oöphorectomy is suggested as the panacea for all the ills from which unfortunate women suffer, and their ovaries are removed with as little impunity as the butcher spays his sows, and with the same consideration for the wishes of the patient. An ethical question arises here on which we have a very pronounced opinion. The ovaries should not be removed without the consent of the patient. It is always easy to explain to the patient what is proposed to be done. This is only fair and just." In another journal we are told—"It is more than hinted that women are spayed without being told what the nature of this operation of spaying is, and the position in which they will be placed by it."

In a recent discussion on this subject, from which I regret that my limited space here prevents my quoting *in extenso*, some remarkable statements may be found (as reported in the *Medical Press and Circular* of February 14th, 1886) with regard to the frequency of laparotomy operations, and the circumstances under which, it is there asserted, they are occasionally resorted to. Thus, *inter alia*, it was mentioned by Dr. Carter that, in one hospital, "no fewer than one hundred and eleven women had been deprived of one or both ovaries during the year 1885." In some of the cases referred to during this discussion, it was stated that the ovaries were removed "without the patients' knowledge of the condition to which they were thus reduced," although, it should be here mentioned, that this allegation as well as the accuracy of some of the statistics then referred to was controverted.

III. LAPAROTOMY FOR UTERINE FIBRO-MYOMATA.

In my Inaugural Presidential Address here, "On the Recent Progress of Obstetric and Gynæcological Medicine," I referred briefly to this subject. As, however, that Address will not appear in our "Transactions," to which I trust this paper may be admitted, I will recapitulate a few observations bearing on the topic under consideration. One of my reasons for so doing is to place on record in the "Transactions"—in the last volume of which a communication of mine was published, in reference to which a complaint has been since made—this evidence of my desire to clear up a point on which some misunderstanding took place between Mr. Lawson Tait and myself. In that inaugural discourse, alluding

to the enthusiasm prevailing with regard to abdominal surgery, I said:—"In a paper read here last session, on Uterine Fibromyomata, I endeavoured to show that in their treatment abdominal section, although in some instances necessary, was by no means invariably indispensable. I pointed out that such tumours might occasionally be removed by enucleation per vaginam; that in other cases they could be kept in check or their symptoms obviated by purely medical means; and that in others, again, they call for no active treatment whatever. In so doing I referred to the statistics published by several eminent specialists, one of whom (Mr. Lawson Tait) has since complained of being misrepresented in a passage in which, alluding to certain incomplete operations, I said—'Of these incomplete operations Mr. Lawson Tait thinks that "he may speak with a certain amount of satisfaction," though from whence he derives this contentment I am at a loss to understand, as his mortality in them was 50 per cent.' He says—'Of one group I think I may speak with a certain amount of satisfaction, that is the group which includes thirty cases of incomplete operations, even if all that I can say is that three per cent. of incomplete operations is not a large proportion, and that I have the satisfaction of knowing that it is still on the decrease, as my experience grows.'

"In reply I pointed out to Mr. Tait that in the passage to which he takes exception I was referring to the rate of mortality in one particular group of cases, which was stated to be 50 per cent., and that I saw no unfairness in my not having quoted those words, of the omission of which he complains, as they do not bear on the stated mortality in that group of operations, but referred to the diminution of incomplete operations in his practice, and not to their result. In my paper and elsewhere I have fully acknowledged Mr. Tait's skill and ability, and as I feel free from any consciousness of having misrepresented his statements, I regret that he should be under the mistaken impression that I desired to do so."

My views on this topic have been more than once controverted, more especially those with respect to the general necessity of constitutional as well as operative treatment, and the comparative advantages of laparotomy and vaginal operations, in the treatment of uterine fibro-myomata, and as the efficacy of my methods of dealing with such cases has been disputed, I shall—since the question comes directly within the scope of this communication—again summarise my opinions as confirmed by my present

experience on these points. This I am induced to do with the object of having my statements discussed in the presence of colleagues who are cognisant of my practice and who have kindly assisted me in the treatment of such cases, some of which are now in my wards in the hospital. Under these circumstances, I may again point out that whilst in certain instances of fibro-myomata laparotomy may be useful, in many other cases fibro-myomata may be advantageously dealt with by medical treatment; in some instances they can be treated surgically without abdominal section, and in others, again, they appear to require no special treatment whatever. I have myself seen cases in which these tumours have, in the course of time, become notably reduced in size, and instances of their complete subsidence in this way have been recorded by Dr. Kidd and others.

With regard to oöphorectomy, as well as hysterectomy and myotomy, it appears to me that one of the causes of the very frequent employment in recent practice of these operations is the fact that in the minds of many practitioners the wonderfully successful results attained by modern ovariologists have unduly favoured the extension of abdominal surgery in this as well as in other directions. It should be borne in view, however, that there can be no parity in the treatment required for ovarian and uterine tumours—the former being, as a rule, though not without exception, rapidly progressive in their development and eventually fatal, whilst the latter, however much discomfort and impairment of health they may occasion, seldom directly destroy life, and in many instances become arrested in their development at the menopause and in the course of time.

The mortality of hysterectomy and myotomy should, in my opinion, exclude them from consideration as measures of election in the treatment of uterine tumours. As Dr. Keith has well said:—"The proportion of cases of uterine fibroid, in which interference of any kind is at any time warrantable, is extremely small. It is not perhaps greater than five per cent. of all cases. I have no hesitation in saying, from what I know, that operations for fibroids are far too often performed, considering the fatal nature of the operation. At present there is a speculation abroad for abdominal section, and a woman with a movable tumour in her abdomen has in these days a small chance of escaping the said section. As the operation stands at present, its mortality is perhaps greater than that of any other surgical operation. It ought

not to be undertaken without some strong necessity, for not one fibrous tumour in twenty gives the woman any trouble, or scarcely any, during the whole menstrual life, and a death directly from one is extremely rare.”^a

In reference to oöphorectomy, which has been largely employed of late years not only for the prevention of hæmorrhage, but also for the arrest of the development of uterine tumours, it appears to me that further evidence is needed of any general necessity of this procedure in such cases. That it can be carried out with safety in a large number of instances there is now no question, or that it may be effectual in some cases of actively-developing fibromata not removable by the vagina, and as a means of checking the growth of the tumour and arresting hæmorrhage, more especially in young patients, who might not otherwise reach the menopause. Under ordinary circumstances, however, the removal of the ovaries merely for arrest of hæmorrhage appears to me inexpedient until other methods of checking it have been tried.

In this connection I must further refer to the alternative measures which, according to my experience, may in many cases be substituted for the procedures just alluded to with a fair expectation of a successful result.

First, then, with regard to enucleation.

This, although commonly restricted to submucous tumours, and even excluded in such cases by some recent authorities, is, I believe, applicable to many cases in which the size and position of the tumour is such as to render it capable of removal through the vagina.

With regard to medical treatment, I can still speak confidently from frequent experience of its value in the management of cases of fibro-myomata such as I have now in hospital, in which for various reasons operative treatment is not deemed necessary, expedient, or feasible. By appropriate treatment of this kind we may, in many instances, keep the hæmorrhage, pain, and the symptoms of fibro-myomata sufficiently under control, so as to enable patients to await the menopause with a fair amount of comfort, even if we cannot hope to thus exert any direct influence on the intra-uterine tumour itself. With this view our constitutional treatment should, in the first instance, be directed to the arrest of the metrorrhagia resulting from the myoma by the free use of liquor ergotæ, which I prefer to ergotine and employ in large doses hypodermically as

^a Edin. Med. Journal. May, 1885. P. 969.

well as by the mouth, and which in my practice seldom fails to check such hæmorrhage, and also in some cases distinctly produces, by its long-continued administration, a well-marked diminution in the size of the tumour. To aid in thus diminishing the congestive hypertrophy that always attends the development of uterine myomata, iodide of potassium may also in many cases be freely employed with the happiest effect when administered in suitable cases, in efficient doses, and for a sufficient length of time.

Lastly, I shall here reiterate the opinion I have elsewhere expressed more than once, and which is founded on long observation and experience—*i.e.*, that in cases of myomata in which operative interference is not expedient, we may possibly succeed in arresting the progress of the disease and prolong the life of the patient by sending her to one of those suitable iodated or bromated spas which are described in my work on “The Health Resorts of Europe.”

IV. LAPAROTOMY FOR EXTIRPATION OF CANCEROUS UTERUS.

The extirpation by abdominal operation of the entire uterus in cases of cancer might also be included within the scope of this paper. And although it would be impossible to discuss the subject within our present limits, it may, at least, be remarked that it has been clearly shown by Dr. W. A. Duncan that whilst the mortality in 137 cases of abdominal extirpation was 99, or at the rate of 72 per cent., in 276 cases of vaginal extirpation of the uterus there were only 79 deaths, being a death-rate of 28·6 per cent. It was forcibly observed, however, by Dr. Priestley, in the discussion on this subject in the London Obstetrical Society:—“Cancer was so pitiless and distressing, and a disease so much dreaded, that all must welcome a remedy, however severe it might be, if such a remedy gave a chance of recovery at the time and of immunity for the future. And it might well be said that the operation for extirpation of the uterus, although perilous, was not out of proportion for the gravity of the disease for which it was proposed. It was not a great operation for a minor ailment, which the satirist had characterised as apparently undertaken more for the benefit of the surgeon than for that of the patient.”^a

^a Obstetrical Transactions. Vol. XXVI., p. 98. London, 1886.

ART. II.—*The Treatment of Presentations and Prolapses of the Funis.*^a By WILLIAM C. NEVILLE, M.A., M.D., and Master of Obstetrics, Univ. Dubl.; M.K.Q.C.P.; Fellow, Hon. Sec. of the Obstetrical Section, and Member of General Council, Academy of Medicine in Ireland; Physician to Pitt-street Institution for Diseases of Women and Children.

IN bringing this subject under notice, I have been guided by considerations which, to my mind at least, seemed satisfactory. These considerations are:—The practical importance of the subject; the length of time since it has been discussed amongst us; and the conviction to which, whether rightly or wrongly, I have been led both by experience and reflection, that the methods of treatment usually taught and practised are gravely defective.

From the title of the paper it will be seen that I distinguish between presentations and prolapses of the funis. The distinction, though commonly alluded to, has not been consistently adhered to in standard works upon obstetrics. Inasmuch, however, as it is one of great convenience and practical importance, it will be strictly kept in view throughout the following paper.

The funis will be considered as *presenting* when it can be felt in front of or beside the presenting part of the foetus *through intact membranes*; as *prolapsing* when it occupies a similar position *after rupture of the membranes*. Prolapse of the funis may follow as a sequel of its presentation, or it may occur for the first time after the membranes have ruptured.

The subject is an important one—of practical rather than of curious interest; deserving the most serious attention, both on account of the comparative *frequency* of these accidents, and of the *grave foetal mortality* which attends them.

These displacements of the funis are by no means infrequent, though statistics on the subject are even more than usually at variance. Thus Manzoni met with one or other displacement as often as twenty times among 450 patients (1 : 22½) in a lying-in hospital at Florence,^b while another observer^c met with only one case in 1,897 labours. Churchill found that out of 188,730 recorded labours, collected from various sources, the funis presented

^a Read before the Obstetrical Section of the Academy of Medicine in Ireland, Friday, June 4, 1886.

^b Vide Charpentier, "*Traité des Accouchements*." Paris, 1883. Tome II., pp. 442.

^c Bland, quoted by Lusk, *Science and Art of Midwifery*.

or prolapsed 816 times, or once in $231\frac{1}{2}$ labours. Charpentier's still more extensive statistics (342,929 labours) give an almost identical frequency—viz., once in 227 labours. Such statistics as these are chiefly useful as furnishing a broad rather than an exact basis from which to draw conclusions. In considering them, certain points must be borne in mind. In the first place, while they cannot overstate, many reasons lead us to think that they may considerably understate, the frequency with which these displacements of the funis occurred in the particular cases recorded. All they prove is that the accident was observed and recorded in so many cases; and their exactness must depend upon the care and capacity of the observer. From these and other statistics it would seem that it is more frequent in Germany than in England or France—a fact which Simpson attempted to explain by the position in which labour-patients are placed (on their backs with shoulders raised), during the first stage at least, in that country. May not the difference—which is quite a marked one—be also partly explained by the greater exactness and zeal with which German obstetricians examine their patients? A large proportion of the labours collected in these statistics occurred in connection with hospital practice in which, the immediate care of the patients being in the hands of subordinates, it is but natural to suppose that many less marked cases of these accidents pass unnoticed and unrecorded. Included also in the statistics under consideration are found the records of some old observers, not specially compiled to elucidate the point at issue. I was much struck by the fact that, according to these older statistics, the frequency of the displacement appears to be very markedly less than it would seem to be from more recent records, partly perhaps for the reason just given, partly because the old observations were less accurately made or kept, and also because, in the presence of other graver complications as regards the mother, these may not always have been noted. Thus M. Boivin, quoted by Churchill, recorded 20,357 labours in which this complication is stated to have occurred 39 times, or once in 522 labours; and M. Lachapelle, quoted by Charpentier, recorded 37,895 cases with a frequency of one presentation or prolapse in 592 labours. We may fairly conclude then, by making the necessary allowances in the statistics of Churchill and Charpentier, that these displacements of the funis occur about once in 200 cases of labour.

The question of the foetal mortality which attends these cases is alluded to as follows by Dr. Playfair, in a paragraph which is

quoted in full as embodying standard conclusions :^a—" With regard to the danger attending prolapsed funis, as far as the mother is concerned, it may be said to be altogether unimportant ; but the universal experience of obstetricians points to the great risk to which the child is subjected. Scanzoni calculates that 45 per cent. only of the children are saved ; Churchill estimated the number at 47 per cent. ; *thus, under the most favourable circumstances, this complication leads to the death of more than half the children.* Engelmann found that out of 202 vertex presentations only 36 per cent. of the children survived. *The mortality was not nearly so great in other presentations ; 68 per cent. of cases in which the child presented with the feet were saved, and 50 per cent. in original shoulder presentations.* The reason of this remarkable difference is, doubtless, that in vertex presentations the head fits into the pelvis much more completely, and subjects the cord to much greater pressure ; while in other presentations the pelvis is less completely filled, and the interference with the circulation of the cord is not so great. Besides in the latter case the complication is detected early, and the necessary treatment sooner adopted."

These conclusions, universally accepted, are extremely significant—far more so, I think, in their practical bearings than has been hitherto perceived. That such striking facts should have been generally observed and alluded to merely as of curious, instead of practical, interest surprises me greatly. Is it possible for facts to plead more strongly against the practice of allowing a vertex presentation to remain as such when once the funis is discovered to present ? By changing a vertex into any other presentation—a change easily and quickly accomplished without rupture of the membranes in a large number of cases—we at once decrease the foetal mortality by from 15 to 30 per cent.

We are now ready to consider the *treatment of presentation of the funis*. I will assume that the patient is seen at an early period of labour, that the cord has been felt through the membranes, and that by its pulsations, or by hearing the foetal heart and establishing, by external examination, that there is only one child to which it can belong, we are satisfied that the child lives. How now are we to act ? to take the simplest and least dangerous case first.

If the Breech presents.—The treatment usually taught is as

^a Playfair—Science and Art of Midwifery. 5th ed. Vol. I., pp. 403. [I italicise those portions of the quotation to which I wish to direct particular attention.]

follows:—Preserve an expectant attitude so long as the cervix remains incompletely dilated, and the membranes remain intact. Guard in all possible ways against premature rupture of the membranes, keeping the patient in bed, forbidding any attempts at bearing down; and, above all, by exercising extreme caution and gentleness during vaginal examinations, which should only be made for necessary purposes. From time to time try the knee-chest position maintained for as long as possible, and the lateral semiprone position with hips well raised above the level of the shoulders. By attention to these postural methods the cord may recede spontaneously from its position of danger. Thus far the management is the same, as commonly taught, for all cases. The cord, if it does not recede, will finally prolapse, when the membranes rupture spontaneously. Then repose the cord as well as possible with the hand, and bring down one foot at the same time. Rapid extraction should follow if the cord does not then remain reposed.

The alterations which I would suggest as improvements in the above practice are as follows:—If the cord has not receded under the influence of postural treatment, when the os is $\frac{1}{2}$ – $\frac{2}{3}$ rds dilated and dilatable, we should wait no longer, but proceed at once to rupture the membranes, introduce the hand into the uterus, repose the cord, and bring down a lower extremity. In order to prevent any sudden outrush of liquor amnii the patient should lie during the operation in the semiprone position, with her hips well raised above the level of her shoulders, and the membranes should be ruptured when the uterus is perfectly quiescent. In steady pluriparæ, with fairly roomy vaginæ, the operation may be very well performed, with the patient in the knee-chest position, which minimises the difficulty of dealing with the cord. Chloroform, administered so as to produce complete relaxation, may be necessary in primiparæ or nervous patients, who could not otherwise be trusted to remain quiet during the operation, which should, however, be a very quick one. At its conclusion the thigh of the child should so fill the cervix as to prevent the possibility of the funis prolapsing by its side. The labour should then be left to progress naturally, occasional traction being made with a view to stimulating and aiding uterine contractions, and at the same time guarding against any space being left through which the cord could prolapse. The fœtal heart must subsequently be watched, any decided irregularity or slowing pointing to the need for accelerating delivery.

The only difficulty in this proceeding consists in bringing down the limb without allowing the cord to prolapse. It is better to bring down a knee than a foot, as the thigh, which immediately follows in the former case, rapidly fills the uterine outlet and secures us against prolapse. But if prolapse do occur a fillet should be immediately put round the foetal limb, which can then be delivered by traction from without, while the internal hand keeps guard over the funis. Some dexterity is needed to surmount this difficulty in all cases, yet the difficulty is less than it is likely to be later on in labour. After the waters have escaped at the close of the first stage, the uterine outlet is so fully dilated as to be blocked with difficulty, and we may also have to deal with a cord prolapsed, from the very beginning of the operation, altogether out of the vagina. The timely operation is also a less risky one for the mother than the later one, because of the presence of liquor amnii, and more hopeful for the child, because it avoids the dangers which are entailed even by the most temporary disturbance with the oxygenation of its blood. And even if the advisability of taking action so early as I have recommended be questioned, on the ground that the subsequent delivery of the after-coming head may thereby be made more difficult, yet, at least, there can be no question as to the wisdom of acting—since at some time we must act—before, rather than after, rupture of the membranes. Indeed, the cardinal point in my contention is that we should avoid, if possible, the spontaneous rupture of the membranes, as a result of which the danger gets ahead of us, and the necessary operation is made more difficult and dangerous, and less likely to be of service to the child. Indeed, I can conceive no gain whatever from allowing the membranes to rupture of themselves when once the os is fully or almost fully dilated. Better far is it to take and keep the command of the situation from the very beginning, than to be forced to act hastily under the constraint of a pressing and immediate danger.

When the Shoulder presents.—We need not delay over this case, the treatment of which is usually stated to resolve itself into that of the foetal malposition. But we must also consider the most favourable method and moment for interference, in view of the displacement of the cord. The interests both of mother and child will, I think, be best conserved by adopting the same line of treatment as that first recommended for cases in which the breech presents. During the earlier period of labour try and secure

spontaneous recession of the cord by attention to postural treatment, and take precautions against premature rupture of the membranes. Then, when the os is $\frac{1}{2}$ — $\frac{2}{3}$ rds dilated, introduce a hand into the uterus, repose the cord if still presenting, and block the outlet by bringing through a lower extremity. Labour may then be allowed to proceed naturally, being hastened only when the foetal heart-beats show by their characters that the child is in danger.

When the Head presents.—The usual teaching (that, for example, of Lusk, a thoroughly representative authority) is as follows:—During the first stage preserve the membranes very carefully, and try to secure recession of the cord by the various postural devices. The common teaching, in fact, as regards the treatment during the first stage is the same whether the head or the breech presents.

Supposing now, as is most likely, that the cord prolapses when the membranes rupture; then, if dilatation is complete, the pelvis roomy, and the pains strong and effective in a pluripara, the case may possibly be left to nature, while we attempt to protect the cord from pressure by guiding it into the comparative shelter of one or other sacro-sciatic notch. If the pains are not strong enough, use the forceps to quicken delivery. But if the head remain above the pelvic inlet, the alternatives are version or reposition—the latter, as the milder alternative, being first tried. If successful in reposing, re-prolapse must be guarded against by fixing the head in the brim, either by external pressure or by the use of the forceps. Efforts at reposition cannot be long continued without danger to the child, and if not quickly successful recourse must be had to version.

It is a matter for some surprise that so many authorities should be content to follow the routine of a treatment sufficiently discredited by the terrible foetal mortality which has attended its application in practice. For, promising as this treatment may appear, the fact that the mortality attending it—in the hands, too, of skilled specialists—has averaged about 60 per cent., is a remorseless commentary on its inadequacy. Suppose that the mortality were maternal instead of foetal, is it conceivable that so unsuccessful a treatment should so long have been acquiesced in? It may be said, however, that the want of success is due to the gravity of the accident, and that the treatment is as good as it can be.

There is, at least, an alternative treatment radically differing from the usual one, which I am anxious should obtain an extensive trial. Its main feature consists in utilising the first stage of labour for altering the head presentation into one which experience has unmistakably proved to be much less dangerous to the child. As early an opportunity as possible should be taken to turn the head—face, or brow—into a breech or even shoulder presentation. In pluriparæ, with the head presenting above the pelvic brim, this version is easy, and can often be effected by simple external manipulation. In primiparæ, on the other hand, external version is seldom easy, the head-pole of the child's body being already intra-pelvic, and thus incapable of being acted upon from without. But for this very reason presentation of the cord is only quite exceptionally encountered among primiparæ where the pelvis is normal and the head presents, though slight contractions of the brim, which interfere with the descent of the head previous to labour, are frequently enough to be credited with presentation of the cord in this class of patients. Version—in these cases doubly indicated—may then be performed through the abdominal walls, and this kind of version is really much more easy than those who have not yet tried it are apt to think. Indeed, from the casual way in which external version is treated of in most works upon obstetrics, it is scarcely to be wondered at that so few put trust in this most useful operation. Some members of this Academy will, I know, readily support my statement that version through the abdominal walls, under fairly favourable conditions, and towards the commencement of labour, is an easy, safe, and rapid operation. Should it not succeed, however, from any of the causes which render its performance difficult—*e.g.*, scanty liquor amnii, with more or less fixation of the foetal body, irritable uterus, or tight and incompressible abdominal walls—we should content ourselves with keeping the patient at rest, and trying postural methods until the os is well, say two-thirds, dilated. We should then proceed to turn by the bi-polar method of Braxton Hicks, avoiding rupture of the membranes if possible, until the feet are near the os. The cord should then be manually reposed, and a lower limb brought through so as to block the outlet as before explained. If from any cause the operator is unable to turn in this way, he must have recourse to the ordinary podalic method, though this involves much more extensive introduction of the hand into the uterus. Anyhow, the risk to the mother is distinctly less now than if the same operation is performed com-

pulsorily during the second stage—one of the commonest sequels of the ordinary practice—while the child's chances also seem better, the cord never being subject to any pressure, unless, in bringing through the leg, the operator's want of dexterity allows it to prolapse. In the latter event a noose must be put round the limb, which can then be brought down by traction from without, the cord being kept out of the way by the inner hand, or reposed by one of the devices afterwards to be described. The subsequent management must be as after the similar proceeding when the breech is the originally presenting part.

Not rarely, when there is a *slight excess* of liquor amnii, external or combined internal and external version is so easy that the foetal body can be easily turned round and round inside the womb. In such cases we may find that the presenting cord disappears after one or more rotations. In one case—the only one in which I had an opportunity of trying this *device of repeated turnings*—it succeeded perfectly after I had altered the foetal position three or four times. In head presentations I would always turn early during labour, if possible by external version, without troubling about postural treatment—because (1) the mere turning may cause the funis to recede; and (2) because the recession of the cord under postural treatment is not always permanent, prolapse being likely to recur when the membranes rupture. Spontaneous recession will sometimes occur without any postural treatment; but this, again, is not likely to prove permanent. So again, if turning can be accomplished without rupturing the membranes, by Braxton Hick's method, I would perform it for greater security, though the cord had, for a time at least, receded. But if turning could not be performed without rupture of the membranes, I should prefer to trust to the cord remaining reposed than to perform the old operation of version, when not absolutely needed. But, as previously observed, when the cord has once been noted as presenting, prolapse is very apt to occur along with spontaneous rupture of the membranes, and sudden escape of liquor amnii. Hence the rule which should be adopted in these cases—to avoid spontaneous by artificial rupture, the patient being in the knee-chest posture, and the uterus flaccid. A small puncture rather than an extensive tear is also advisable.

[To be concluded.]

ART. III.—*Remarks on the Climate of Dublin, based upon Twenty Years' Observations.*^a By JOHN WILLIAM MOORE, M.D., M.Ch. Univ. Dubl.; F.K.Q.C.P.; F.R. Met. Soc.; ex-Scholar and Diplomate in State Medicine of Trinity College, Dublin; Physician to the Meath Hospital and Co. Dublin Infirmary; Lecturer on Practice of Medicine in the Carmichael College of Medicine, Dublin.

OBSERVATIONS on the Weather and on the chief climatic elements in Dublin are by no means of modern origin. In the Report on the Tables of Deaths in the first volume of the Census of Ireland for the year 1851 will be found an interesting historical sketch, presumably from the pen of Sir William Wilde, one of the Census Commissioners, of the weather records which had been kept in Ireland, and in Dublin specially, from time to time. At page 648 of *The Philosophical Transactions* for 1676, there is a letter addressed to the Royal Society of London, giving an account of the weather in Dublin in the previous year—1675. The next notices are preserved amongst the records of the Dublin Philosophical Society, established in 1683.^b The MS. Proceedings and Transactions of the Medico-Philosophical Society of Dublin, founded in 1756, afford, down to the year 1784, several useful notices of the weather and diseases, particularly in the metropolis of Ireland. Dr. Rutty's observations were embodied in a monthly diary compiled, no doubt, from daily observations on the temperature, the wind, and the rain; but only a few of his tables have been preserved. The first accurately recorded weather observations in Dublin were those made in 1788 and succeeding years by Mr. Richard Kirwan, President of the Royal Irish Academy. His researches were continued until the year 1808. Medical writers in the early part of the present century, including successive generations of physicians to Cork-street Fever Hospital, depended for their meteorological information on records diligently kept from 1805 to 1841 by Dr. Thomas Herbert Orpen, and which are preserved in MS. in the Library of the Royal Irish Academy.

From 1829 to the present time an admirably systematic and, for

^a Read before the Sub-Section of State Medicine of the Academy of Medicine in Ireland, Wednesday, April 21, 1886.

^b See The History of Periodic Medical Literature in Ireland, including Notices of the Medical and Philosophical Societies of Dublin.—Dubl. Quart. Journal of Med. Science, Vol. I. February, 1846. This paper was also written by Sir William Wilde, who was at the time editor of this journal.

the most part, scientific series of observations have been made at the Ordnance Survey Office, Mountjoy Barracks, Phoenix Park—a station which, however, by no means represents the climatic conditions under which the population of the city, or even its suburbs, in general live. These observations were commenced by the late Sir Thomas Larcom, and have been continued by the several Royal Engineer officers, who have been subsequently in charge of the department from time to time. At present the Observatory of the Ordnance Survey is in a state of high efficiency under the supervision of Col. Sir Charles W. Wilson, K.C.B., K.C.M.G., R.E., to whose able administration I am gratified to be able to bear this testimony. But city observations were not wanting during this time. The late Rev. Humphrey Lloyd, D.D., Provost of Trinity College, Dublin, based his classical “Notes on the Meteorology of Ireland”^a to a large extent on a many years’ series of observations, taken under his direction, in the magnetic observatory of Trinity College. The Royal College of Surgeons in Ireland, at the instance of Professor Apjohn, also instituted a series of observations, the results of which were for a long time after 1839 published week by week in *The Dublin Medical Press*. The observer appears to have been John Evans, a porter in the employ of the College. Mr. S. Yeates, of Grafton-street, subsequently kept a record of the weather, which was published weekly during many years in *Saunders’s News-Letter*. Within a recent period the Glasnevin records, taken in the Botanic Gardens of the Royal Dublin Society, have been revised and improved.

Although it lies outside the scope of this paper, which has reference to Dublin solely, I would like to mention the admirable weather records kept for many years at Portarlinton by a respected member of the profession, Dr. M. W. Hanlon. That his observations possess scientific value is proved by the fact that his rainfall returns have been made use of by Mr. G. J. Symons, F.R.S., in compiling official tables of the rainfall of the British Islands for the Meteorological Council of the Royal Society.

This brief historical summary would be incomplete, and I would be wanting in filial duty, were I to omit mention of the observations taken by my father, Dr. William Daniel Moore, M.R.I.A., at his residence in South Anne-street, in the very heart of the city. His MS. records are still in my possession, and, with a few interruptions, cover the period between October, 1849, and the same month in

^a Transactions of the Royal Irish Academy. Vol. XXII., page 411 *et seq.* 1854.

1860, when my own series of observations commenced. These, to the taking of which my father's example first inspired me, have been continued uninterruptedly to the present—thanks to the help from time to time most cheerfully afforded me by various members of my family. At first the observations were of a primitive kind, consisting solely of a daily morning record of the temperature, the atmospherical pressure, and the direction of the wind, with a few notes as to the prevailing weather. Afterwards the maximal and minimal temperatures began to be recorded, as well as the rainfall each twenty-four hours. Then a second daily observation was made, and in March, 1869, the dry and wet bulb thermometers were added to the Observatory in the garden of my present residence, 40 Fitzwilliam-square, West. The instruments in use since that time were nearly all supplied, at my own expense, by the Meteorological Office of the Royal Society, London, and they were duly certificated at Kew Observatory.

The thermometers are hung in a modified Stevenson-stand, with louvre-work sides, which faces N.N.E., and is fixed on a raised mound near the southern wall of the garden. The barometer—of the Kew pattern, first designed by Mr. P. Adie, of London—is securely fastened to a bookcase in the Library, the cistern being exactly 60 feet above mean sea level (Ordnance datum) at Liverpool. My “station” is situated in latitude $53^{\circ} 20' N.$, longitude $6^{\circ} 15' W.$, at a height of 51 to 54 feet above mean sea level. It is annually inspected by Mr. Robert H. Scott, F.R.S., the Secretary of the Meteorological Office, who thus comments upon it in the Annual Report of the Meteorological Council to the Royal Society, for the year ending March 31, 1884—“This station (Dublin, Fitzwilliam-square) fully maintains its character, as being as good as is possible for a town situation.” He sums up his remarks on the three Dublin stations, Mountjoy Barracks, Fitzwilliam-square, and Glasnevin Botanic Gardens, with the words—“On the whole, it may be said that Dublin is as well represented, climatologically, as any city in the United Kingdom.” I mention these facts in order to bespeak attention to the results I shall now endeavour to bring out.

From a hygienic point of view, the meteorological factors of greatest importance are — (1) Temperature; (2) Rainfall; (3) Number of Rainy Days; and (4) Relative Humidity. Of somewhat less importance are—(5) Mean Atmospherical Pressure; (6) Amount of Cloud; (7) Direction and Force of the Wind.

In the present paper I will deal chiefly with the former group ; but Table I., reproduced from the “Supplement to the Seventeenth Report of the Registrar-General for Ireland on Marriages, Births, and Deaths,” contains an abstract of the complete observations taken during the ten years (1871–80 inclusive). In this Table the average^a “mean atmospherical pressure” has been obtained from daily readings of the barometer at 9 a.m. and 9 p.m., corrected and reduced to 32° Fahrenheit at the mean sea level. The average “mean temperature of the air” given is the arithmetical mean of the readings of the dry bulb thermometer in a Stevenson stand taken daily at 9 a.m. and 9 p.m. The “tension of aqueous vapour” (expressed in terms of inches of mercury), “relative humidity,” and “amount of cloud,” are the result of observations taken daily at 9 a.m. and 9 p.m. The “rainfall” is that measured at 9 a.m. each day and entered to the preceding day. A “rainy day” is one on which at least one-hundredth ($\cdot 01$) of an inch of rain falls within the twenty-four hours from 9 a.m. to 9 p.m. The number of days of rain, snow, hail, thunderstorms, clear sky, overcast sky, and gales are calculated from observations at 9 a.m. and 9 p.m., and the same applies to the results obtained as to the direction of the wind.

The *average mean height of the barometer* during the ten years embraced in the Table, 1871–80, was 29·898 inches. The annual mean varied from 29·737 inches in 1872, to 29·964 inches in 1875 and 1880—a difference of nearly a quarter of an inch ($\cdot 227$ inch). The monthly average ranged from 29·996 inches in May to 29·847 inches in October. The extreme monthly means were—highest, 30·307 inches in January, 1880; lowest, 29·344 inches in December, 1876. I may state that the absolute extreme readings of the barometer at any time taken by me were—maximum, 30·935 inches, at 10 30 p.m., of January 18, 1882; minimum, 28·150 inches, at 2 15 p.m. of January 26, 1884, on which memorable occasion the probably unprecedented readings of 27·400 inches at Aberdeen, and 27·332 inches at Ochtertyre, near Crieff, in Perthshire, were recorded. No such reduction of pressure had taken place in the British Islands for at least 120 years previously.

The extreme observed range of atmospherical pressure in Dublin within the past quarter of a century or so was, therefore, 2·785 inches—a little more than two inches and three-quarters.

^a Throughout this paper the term “average” is employed to denote *the arithmetical mean of a series of means*; thus, by average atmospherical pressure, we understand, in the present instance, the arithmetical mean of a series of ten years’ annual mean pressures.

TABLE I.—*Yearly Abstract of Meteorological Observations taken at 40 Fitzwilliam-square, West, Dublin, during the Ten Years 1871–80, by J. W. MOORE, M.D. Univ. Dub., F.K.Q.C.P., F.R. Met. Soc.*

Long. 6° 15' W.; Lat. 53° 20' N. Height above Mean Sea Level, 51 feet. Thermometers 4 feet above ground. Rain-gauge 3 feet 4 inches above ground.

YEAR	MEAN PRESSURE	AIR TEMPERATURE								TENSION OF VAPOUR			RELATIVE HUMIDITY		
		9 a.m.		9 p.m.		Mean	Means of		Absolute Min.	Absolute Max.			9 a.m.	9 p.m.	Mean
		Min.	Max.	Temp.	Date	Temp.	Date	Temp.	Date	Ins.	Ins.	Ins.	%	%	%
1871	Ins. 29·886	50·5	49·5	50·0	45·3	55·5	25·9	78·3	Dec. 5th	August 10th	·305	·306	·306	81·5	83·2
1872	·737	50·0	48·9	49·5	45·0	55·3	26·0	77·3	Jan. 21st	July 4th	·295	·297	·296	80·8	82·5
1873	·930	49·4	48·6	49·0	44·4	55·1	24·0	79·3	Feb. 3rd, 4th	July 20th	·291	·290	·291	80·0	81·0
1874	·944	50·0	49·3	49·7	44·8	55·6	25·2	77·5	Mar. 11th	July 18th	·292	·294	·293	80·0	81·5
1875	·964	50·3	49·5	49·9	45·1	55·5	26·7	74·3	Dec. 9th	July 29th	·305	·306	·306	81·9	83·2
1876	·863	50·2	49·3	49·7	44·9	55·4	25·4	87·2	April 13th	July 16th	·296	·299	·298	80·0	81·7
1877	·852	49·7	48·7	49·2	44·3	55·0	27·4	72·5	Feb. 28th	July 30th	·298	·296	·297	81·5	82·7
1878	·921	49·4	48·6	49·0	44·5	54·6	14·0	75·1	Dec. 24th	July 17th	·306	·308	·307	82·9	84·3
1879	·923	47·2	46·7	47·0	42·4	52·2	21·2	73·6	Jan. 12th	July 28th	·278	·280	·279	82·1	83·3
1880	29·964	49·6	49·0	49·3	44·7	54·9	20·1	74·8	Jan. 22nd	Sept. 4th	·303	·306	·305	81·8	82·9
Averages and Extremes of Ten Years	Ins. 29·898	49·6	48·8	49·2	44·5	54·9	14·0	87·2	Dec. 24th, 1878	July 16th 1876	Ins. ·297	Ins. ·298	Ins. ·298	% 81·3	% 82·6

TABLE I.—continued.

YEAR	AMOUNT OF CLOUD			RAINFALL			WEATHER							WIND											
	9 a.m.	9 p.m.	Mean	Total	Max.	Date	Number of Days of							Number of Observations of											
							Rain	Snow	Hail	Thunder Storms	Clear Sky	Overcast	Gale	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm			
1871	5.8	5.0	5.4	Ins. 25.368	Ins. 1.043	Sept. 26th	191	12	24	12	51	75	9	49	42	66	70	83	94	194	90	42			
1872	5.8	5.1	5.5	35.566	1.276	Mar. 21st	238	12	26	7	54	74	9	42	40	52	90	72	97	200	87	52			
1873	6.1	5.4	5.8	23.820	1.181	Sept. 13th	189	17	27	16	104	200	12	47	49	62	43	58	98	224	92	60			
1874	5.9	5.4	5.7	27.186	2.482	Aug. 13th	186	11	30	9	26	85	16	34	36	62	55	51	110	248	87	47			
1875	6.9	6.3	6.6	29.950	1.355	Oct. 26th	205	14	35	9	15	114	13	20	61	100	76	57	84	197	71	64			
1876	6.6	5.7	6.2	32.663	1.828	Dec. 2nd	195	25	34	7	35	96	14	40	39	87	75	71	93	175	93	59			
1877	6.8	5.7	6.2	32.146	1.150	Mar. 24th	229	18	30	8	15	101	13	31	34	62	53	68	110	231	97	44			
1878	6.6	5.8	6.2	28.262	1.220	May 10th	202	26	28	11	28	108	15	43	37	52	69	58	82	212	113	64			
1879	6.9	6.5	6.7	28.858	1.615	Aug. 5th	208	32	48	8	21	132	21	47	50	91	80	46	97	200	76	43			
1880	6.4	5.7	6.1	34.512	2.736	Oct. 27th	188	18	27	15	33	108	17	41	54	95	56	45	99	201	72	69			
TEN YEARS	6.4	5.7	6.0	298.331	2.736	Oct. 27th 1880	2,031	185	309	102	382	1,093	139	394	442	729	667	609	964	2,082	878	544			

Of the 185 snowy days which occurred in the ten years under discussion, 104 were found in the first quarter, 15 in the second, none in the third, and 66 in the fourth. Of the 309 days on which hail was observed, 114 fell in the first quarter, 77 in the second, 23 in the third, and 95 in the fourth.

As regards the *direction of the wind*, 7,309 observations were made with this result—N., 394; N.E., 442; E., 729; S.E., 667; S., 609; S.W., 964; W., 2,082; N.W., 878; calm, 544. The preponderance of westerly (S.W. to N.W.) over easterly (N.E. to S.E.) winds is very striking—the figures are, 3,924 and 1,838 respectively, more than 2 to 1 in favour of westerly winds. But the great excess of due W. winds is still more remarkable. They number 2,082, or more than double the number of S.W. winds, 964. Partial deflection of S.W. winds by a range of mountains, with summits of 2,000 feet and upwards, to the southward of the city, in some measure accounts for this, and a further explanation is to be found in the frequent occurrence of light westerly land breezes during calm, cold weather. Correlated to this class of westerly winds are the light easterly and south-easterly sea breezes of the daytime, which so materially modify the heats of summer in Dublin, and go so far to swell the number of E. and S.E. winds included in the Table.

Gales were recorded on 139 occasions at 9 a.m. or 9 p.m., of which 59, or considerably more than one-third, happened within the first quarter, only 10 in the second, 19 in the third, and 51 in the fourth. January (with 30 gales) was the stormiest month. There was only one gale in June.

Thunderstorms occurred on 102 days, of which 9 were in the first quarter, 37 in the second, 42 in the third, and 14 in the fourth. June (with 22 storms) and July (with 31) were the months in which electrical disturbances most frequently took place. Not a single thunderstorm happened in December.

The *amount of cloud* varied from 64 per cent. at 9 a.m. to 57 per cent. at 9 p.m., the average being 60 per cent. February is the most cloudy month (66 per cent.), May is the least so (55 per cent.). On 382 occasions the sky was clear, or the amount of cloud was under 20 per cent.; on 1,093 occasions it was overcast—that is, the amount of cloud exceeded 80 per cent. The first quarter was the cloudiest (325 overcast skies), the second quarter was the clearest (109 clear skies).

The *mean relative humidity* was 82·6 per cent. (81·3 per cent. at

9 a.m., but 84·0 per cent. at 9 p.m.; it was highest in December (87·2 per cent.), and lowest in May (75·8 per cent.)—this latter being the month when temperature is rising most quickly, and when, therefore, the capacity of the air for vapour is at a maximum.

In Tables II., III., and IV. are embodied the results of twenty years' observations on three of the more important meteorological factors—mean temperature, rainfall, and number of days of rainfall. As the dry and wet bulb temperatures were not observed until March, 1869, I am unable to add a twenty years' table of the relative humidity, and so I must be content with the ten years' results already given in Table I.

Temperature.—Table II. gives the arithmetical means of the daily maximal and minimal temperatures for each month and year from 1865 to 1884 inclusive. The average annual temperature is 49·9°; it varied from 51·6° in 1868 (a very dry, warm year) to 47·3° in 1879 (a phenomenally cold year, which almost produced a famine in Ireland). The coldest months are December (M. T.=41·3°) and January (M. T.=41·4°). The warmest month is July (M. T.=60·7°). The stationary temperature in March (43·5° compared with 43·2° in February) is interesting. The warmest month in the twenty years was July, 1868 (M. T.=63·5°), but the same month was nearly as warm in the two following years (M. T.=63·2° and 63·3° respectively). The coldest month was December, 1878, when the M. T. was within one degree of freezing point (32·8°); but January, 1881, was nearly as cold (M. T.=33·2°). March was unusually cold in 1867 (M. T.=39·0°), and in 1883 (M. T.=39·0°); so were April in 1879 (M. T.=44·5°), October in 1880 (M. T.=45·4°), and November in 1878 (M. T.=38·2°). The last-named month was singularly warm in 1881, when there was actually an increase of temperature from 48·1° in October to 50·3°. Something like this occurred again last year (1885), when the M. T. in October was very low (45·5°), while that in November was 45·9°, or 0·4° higher.

In an Appendix to the Table, I have grouped together four quinquennial periods. This brings out the curious result that the latter half of the twenty years was decidedly colder than the former half.

TABLE II.—*Monthly and Yearly Mean Temperature of the Air in Dublin, and the Average Mean Temperature for the Twenty Years, 1865–84, inclusive.*

Year	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1865	37.8	41.1	41.2	50.4	53.6	61.0	62.0	59.6	61.4	50.7	45.1	46.2	50.8
1866	43.8	40.3	42.0	47.9	50.1	57.8	61.0	58.3	53.0	51.3	46.1	45.1	49.7
1867	35.7	45.7	39.0	49.9	52.0	58.8	58.6	61.3	56.4	50.3	43.2	42.0	49.4
1868	41.9	44.8	47.3	50.1	55.8	60.5	63.5	60.8	57.9	48.0	43.3	44.7	51.6
1869	44.1	46.7	41.2	50.0	48.2	56.0	63.2	59.4	57.1	51.8	45.0	39.8	50.2
1870	41.3	40.5	43.5	49.8	53.9	59.6	63.3	60.5	57.2	50.3	42.2	37.3	50.0
1871	37.9	46.1	46.6	49.6	53.9	57.1	60.4	62.0	54.6	51.6	43.2	42.1	50.4
1872	42.3	45.9	45.9	48.4	50.4	56.2	62.4	60.0	55.7	47.6	44.4	42.1	50.1
1873	43.0	37.9	42.9	47.3	51.9	59.1	61.5	60.2	54.1	48.2	45.7	45.5	49.8
1874	43.6	42.5	46.7	50.4	50.8	57.9	61.8	59.1	55.8	50.4	46.5	36.8	50.2
1875	46.3	41.0	43.9	48.0	54.9	56.5	58.2	61.1	58.2	50.1	44.6	41.2	50.3
1876	43.1	42.4	41.1	47.1	50.5	57.1	62.1	60.1	54.9	53.1	44.4	44.6	50.0
1877	43.7	44.7	42.5	46.1	49.7	58.5	58.9	58.6	53.4	51.2	45.9	42.3	49.6
1878	43.2	44.6	44.5	48.9	53.5	58.2	62.1	60.7	56.7	51.6	38.2	32.8	49.6
1879	35.3	40.1	42.5	44.5	48.8	55.9	57.2	57.7	54.3	49.7	43.9	37.9	47.3
1880	39.7	45.0	45.4	47.8	52.1	57.1	58.9	61.5	58.6	45.4	44.3	42.4	49.9
1881	33.2	40.6	43.2	45.6	53.5	56.4	61.0	57.0	54.6	48.1	50.3	40.7	48.7
1882	44.7	46.2	46.9	47.1	53.2	55.8	59.5	59.2	53.0	50.1	43.6	38.2	49.8
1883	43.2	43.6	39.0	46.7	51.7	56.4	57.9	59.4	55.3	50.0	44.4	42.6	49.2
1884	45.2	43.4	45.4	46.4	52.6	57.9	60.8	61.5	58.0	50.3	43.9	41.6	50.6
Twenty years	41.4	43.2	43.5	48.1	52.1	57.7	60.7	59.9	56.0	50.0	44.4	41.3	49.9
1885	41.5	43.6	41.8	46.7	48.7	56.2	60.8	57.1	54.4	45.5	45.9	42.0	48.7

N.B.—The temperature values given above are the arithmetical means of the daily readings of the maximal and minimal thermometers.

TABLE II. (Appendix).—*The same arranged in Four Quinquennial Periods.*

1865-69	40 ⁰ ·7	43 ⁰ ·7	42 ⁰ ·1	49 ⁰ ·7	51 ⁰ ·9	58 ⁰ ·8	61 ⁰ ·7	59 ⁰ ·9	57 ⁰ ·2	50 ⁰ ·4	44 ⁰ ·6	43 ⁰ ·6	50 ⁰ ·3
1870-74	41·6	42·6	45·1	49·1	52·2	58·0	61·9	60·4	55·5	49·6	44·4	40·8	50·1
1875-79	42·3	42·6	42·9	46·9	51·5	57·2	59·7	59·6	55·5	51·1	43·4	39·8	49·4
1880-84	41·2	43·8	44·0	46·7	52·6	56·7	59·6	59·7	55·9	48·8	45·3	41·1	49·6
Twenty years	41 ⁰ ·4	43 ⁰ ·2	43 ⁰ ·5	48 ⁰ ·1	52 ⁰ ·1	57 ⁰ ·7	60 ⁰ ·7	59 ⁰ ·9	56 ⁰ ·0	50 ⁰ ·0	44 ⁰ ·4	41 ⁰ ·3	49 ⁰ ·9

I may mention that in the original draft of this Table the mean temperatures were deduced from the maximal and minimal readings of the self-registering thermometer by Kaemtz's Formula^a—viz. :— $\text{Min.} + [\text{Max.} - \text{Min.} \times \cdot 41] = \text{M. T.}$ This formula reduces the mean temperature values in winter by half a degree, and those in summer by somewhat more than one degree Fahrenheit.

The *extreme* temperatures in the shade recorded in the twenty years were 87·2° on July 15, 1876, and 13·3° on December 14, 1882—a range of 73·9° Fahr. But these values are very exceptional. As the Table shows, the average annual range of temperature is not quite 20°—namely, 19·4°.

The year 1868 may be cited as an example of an unusually *warm year*. There was an almost complete absence of frost, and during ten out of the twelve months the mean temperature was above the average—the excess varying from 0·5° in January to 3·8° in March—the warmest March within the twenty years now under discussion. October and November were cold—the deficit of temperature amounting to 2·0° and 1·1° respectively. Notwithstanding this, the M. T. of the whole year was 51·6°, compared with an average of 49·8° (excess = 1·8°). A remarkable drought prevailed from the last week in April to the 10th of August, when a tropical rainfall occurred. During this period of nearly three and a half months, only 2·797 inches of rain fell in the city. On six occasions during the summer of this year the thermometer rose to 80° in the shade in Dublin—the highest readings of all being 86° on July 15th and 85° on July 21st. On August 1st the maximum was 82°, and even as late as September 6th the high reading of 77° was noted.

^a Trans. R. I. A. Vol. XXII., page 422. 1854.

In marked contrast to 1868, and as an instance of a *cold year*, 1879 stands out in bold relief. The annual mean temperature was only 47.3° —that is, 2.5° below the average (49.8°). *Every* month was colder than usual—the deficit of mean temperature ranging from 6.1° in January, 3.6° in April, 3.5° in July, and 3.4° in December, to 0.3° in October and 0.5° in November. Curiously enough, these last-named months were relatively the coldest in the warm year, 1868. There was a singular absence of summer heat in July and August; in each of these months the shade temperature exceeded 70° on one day only in Dublin, and on nine days in July it did not reach 60° . The low temperature was accompanied with—to some extent depended upon—a continuous rather than a heavy rainfall. During the six months ending September 30, rain fell on 125 out of 183 days—that is to say, on two out of every three days. The amount of cloud during this cold, damp, sunless year, was 7.5 per cent. over the average. The cold weather, which persisted almost throughout 1879, set in first on October 21, 1878. This period of low temperature had probably not been paralleled for intensity and duration within the present century. The deficiency of mean temperature of the last 11 days of October, 1878, amounted to some 6° , being the coldest weather experienced in that month since 1873. The succeeding November appears to have been the coldest observed in Dublin since 1807—the M. T. was 38.2° , or 6.2° below the average. December, 1878, was also a most inclement month. Snow lay on the ground in the city from the 8th to the 27th, and the M. T. was only 32.8° , or 8.5° below the average, and this notwithstanding a spell of really warm weather on the 30th and 31st.

Rainfall, and Rainy Days.—The average annual rainfall during the twenty years, 1865–84, was 28.015 inches, and the average annual number of rainy days—or days on which at least one-hundredth ($.01$) of an inch of rain was measured—was 194.6.

The year of the *least* rainfall was the last of the series—1884, in which only 20.467 inches were registered on 187 days. In 1870 only 20.859 inches fell, and that was really a drier year than 1884, for in it there were but 145 rainy days. In 1884 there were as many as 187 rainy days, compared with an average number of 194.6 in the twenty years, 1865–84 inclusive. Contrary to what usually occurs, more than half the rainfall fell within the first six months—11.872 inches having been registered up to June 30 on 92 days. In fact, the most striking feature in the distribution of

the rainfall was the scanty downpour observed in August ($\cdot777$ inch) and October ($\cdot834$ inch), usually two of the wettest months in the year, the averages being $2\cdot877$ inches and $3\cdot025$ inches respectively. On no one day did one inch of rain fall—the heaviest daily rainfalls were $\cdot863$ inch on April 4, and $\cdot700$ inch on February 20. It will be observed that on April 4 more rain fell than during the whole month of October, and that on February 20 the downpour nearly equalled the rainfall of August.

The next driest years were 1873 ($23\cdot820$ inches, on 189 days) and 1868—the “warm year”—($24\cdot935$ inches, on 160 days).

The year of the *greatest* rainfall was 1872, in which no less than $35\cdot566$ inches of rain were measured on 238 days. In 1880 the precipitation measured $34\cdot512$ inches, but was distributed over only 188 days—exceptional downpours, amounting to 39 per cent. of the entire precipitation for the year, took place in July ($6\cdot087$ inches, on 24 days) and October ($7\cdot358$ inches, on 15 days), and caused the excess.

The years 1876, 1877, and 1882, were also very wet—the rainfalls being $32\cdot663$, on 195 days in 1876; $32\cdot146$ inches, on 229 days in 1877, and $31\cdot184$ inches, on 227 days in 1882. Had it not been for a dry autumn and winter in 1879—the “cold year”—that year would probably have been the wettest of all, as it was the coldest, for $25\cdot275$ inches of rain fell on 174 days in the nine months ending September 30.

Tables III. and IV. show that May^a and June are the months in which least precipitation takes place in Dublin, the averages being $1\cdot938$ inches on $15\cdot1$ days in May, and $1\cdot962$ inches on $14\cdot7$ days in June. Summer showers and thunderstorms raise the averages for July and August to $2\cdot499$ inches on $17\cdot6$ days and $2\cdot877$ inches on $15\cdot5$ days respectively. September is a dry month ($2\cdot289$ inches, on only $14\cdot5$ days, thus having a fewer number of rainy days than any other month). It is followed by October—the month of the heaviest rainfall ($3\cdot025$ inches on $17\cdot2$ days). The monthly precipitation then remains about two and a quarter inches on some 17 days each month until March, when it sinks to 2 inches, remaining low until July.

^a A notable exception to the rule that May is a dry month occurred in the present year, 1886, when no less than $5\cdot472$ inches of rain were measured on as many as 21 days. More than an inch of rain fell on two consecutive days—viz., $1\cdot151$ inches on the 11th and $1\cdot266$ inches on the 12th.

TABLE III.—Monthly and Yearly Rainfall at Dublin during the Twenty Years 1865 to 1884, inclusive; and in 1885.

Year	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Yearly Rainfall
	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches
1865	1·893	2·321	1·476	1·301	3·412	·727	3·633	3·395	*·056	3·056	3·329	2·863	27·462
1866	1·889	2·063	3·629	2·119	1·810	3·568	1·013	2·172	2·734	1·733	1·489	1·660	25·879
1867	3·086	1·809	4·972	2·181	2·804	1·118	3·443	1·775	1·176	2·848	1·258	·771	27·241
1868	2·638	1·232	1·646	1·930	·891	·677	·741	4·745	2·684	·856	2·146	4·749	24·935
1869	4·258	1·272	2·422	1·490	5·414	·791	·739	1·559	3·957	1·074	1·989	2·594	27·559
1870	2·347	1·440	1·789	·838	1·157	·796	·539	1·514	1·634	5·194	1·218	2·393	20·859
1871	2·624	1·648	·815	3·162	·378	2·265	†4·391	1·065	4·048	2·917	1·258	·797	25·368
1872	2·864	2·557	2·419	2·655	2·164	3·276	1·098	4·302	2·464	3·421	3·414	4·932	35·566
1873	2·650	·925	2·391	·498	·907	·939	3·408	3·944	2·368	3·089	2·009	·692	23·820
1874	2·019	2·683	·953	1·315	1·747	·405	2·515	4·946	1·709	2·508	3·179	3·207	27·186
1875	2·141	2·477	1·040	1·008	1·071	2·989	2·751	1·883	3·180	7·049	3·051	1·310	29·950
1876	·406	3·012	2·158	2·601	·798	1·260	1·337	2·260	3·146	4·505	3·614	†7·566	32·663
1877	4·322	1·560	2·741	4·707	2·343	·921	3·300	3·536	1·795	2·153	2·438	2·330	32·146
1878	1·557	1·576	1·157	2·350	4·540	5·058	·650	4·641	1·684	2·095	1·338	1·616	28·262
1879	1·714	3·706	1·827	1·997	2·048	4·046	4·187	3·704	2·046	1·320	1·251	1·012	28·858
1880	·563	2·581	3·129	1·832	·847	2·166	6·087	1·401	2·061	§7·358	3·235	3·252	34·512
1881	1·369	2·879	1·885	1·329	1·532	2·666	1·863	4·739	1·599	3·470	2·173	1·529	27·033
1882	1·476	1·862	2·260	3·526	1·533	2·384	3·722	1·872	2·619	2·804	3·344	3·782	31·184
1883	2·679	3·752	1·056	2·207	2·023	1·932	2·222	3·307	3·637	2·205	3·074	1·257	29·351
1884	2·358	3·518	1·858	1·532	1·358	1·248	2·350	·777	1·214	·834	1·412	2·008	20·467
Means	2·243	2·244	2·081	2·029	1·938	1·962	2·499	2·877	2·289	3·025	2·312	2·516	28·015

* September, 1865, was the *driest* month of the twenty years.

† July, 1871, was the *wettest* month of the twenty years.

‡ December, 1876, was the month of the heaviest rainfall.

§ Heaviest rainfall in 24 hours—2·736 inches, on October 27th, 1880.

1885	1·617	2·812	1·530	2·911	2·532	1·506	1·154	3·050	2·862	3·500	2·398	·742	26·614
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TABLE IV.—*Monthly and Yearly Number of Rainy Days* at Dublin during the Twenty Years 1865 to 1884, inclusive ; and in 1885.*

Year	Jan.	Feb	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total Rainy Days
1865	13	20	14	9	19	5	17	19	‡ 3	17	18	15	169
1866	22	22	21	18	13	17	13	20	22	13	15	19	215
1867	17	18	22	25	12	6	17	16	13	20	8	13	187
1868	17	14	11	12	10	6	5	13	11	15	19	27	160
1869	18	18	17	14	19	11	9	10	21	11	17	20	185
1870	14	18	11	8	14	9	8	7	11	18	11	16	145
1871	20	16	12	20	9	16	† 28	12	13	16	14	15	191
1872	23	20	21	12	22	19	12	17	22	22	24	24	238
1873	21	8	22	8	17	13	25	23	13	18	14	7	189
1874	14	12	12	16	14	9	19	18	13	22	19	18	186
1875	23	17	14	12	15	20	18	14	14	26	19	13	205
1876	9	23	23	17	6	14	10	14	17	20	20	§ 22	195
1877	25	19	20	21	18	12	25	24	10	16	22	17	229
1878	20	14	17	16	23	19	9	22	16	16	11	19	202
1879	10	23	16	17	23	24	24	19	18	14	10	10	208
1880	8	17	16	20	9	18	24	10	15	15	20	16	188
1881	14	18	17	13	15	21	15	21	12	18	18	16	198
1882	17	16	17	20	16	25	25	11	15	20	24	21	227
1883	20	17	12	10	13	18	22	14	14	16	19	13	188
1884	18	20	17	11	16	10	25	8	14	14	14	20	187
Means	17·1	17·6	16·5	15·0	15·1	14·7	17·6	15·5	14·5	17·2	16·8	17·0	194·6
* <i>I.e.</i> , days on which ·01 inch, or upwards, of rain fell within the 24 hour † <i>Wettest</i> month of the twenty years. Rainfall = 4·391 inches. ‡ <i>Driest</i> month of the 20 years. Rainfall = ·056 inches. § Month of the heaviest rainfall = 7·566 inches.													
1885	23	19	13	16	23	8	10	14	23	22	17	10	198

Borrowing the language of the agriculturist, we may roughly regard the first quarter of the year (January—March) as “Seed-time,” the second quarter (April—June) as “Growing-time,” the third quarter (July—September) as “Ripening and Harvest-time,” and the fourth quarter (October—December) as “Fallow-time.” We find then that the average precipitation in “Seed-time” amounts to 6·568 inches, and is distributed over 51·2 days; that in “Growing-time” is 5·929 inches on 44·8 days; that in “Ripening and Harvest-time” is 7·665 inches on 47·6 days; and that in “Fallow-time” is 7·853 inches on 51·0 days.

September, 1865—the mean temperature of which month was 61·4°, or 5·4° above the average (56·0°)—was the month of the *least* rainfall in the twenty years, rain having been measured in appreciable quantity (·01 inch or upwards) on only 3 out of 30 days to the remarkably small amount of ·056 inches. This month was, therefore, not only a phenomenally warm one but also the *driest* experienced in the twenty years.

On the other hand, December, 1876, was the month of the *largest* rainfall—7·566 inches having been registered on 22 days. In October, 1880, also, 7·358 inches of rain fell, but on only 15 days—the precipitation on the 27th alone was nearly *two and three-quarter* inches (2·736). In July of the same year—as already stated—6·087 inches fell on 24 days. The *wettest* month—that is, the month in which there were most rainy days—was July, 1871, when 4·391 inches fell on no less than 28 days. In December, 1868—the otherwise “dry and warm” year—rain fell on 27 days to the amount of 4·749 inches.

An inch of rain—equivalent to a downpour of 105 tons of water on every statute acre—seldom falls within 24 hours in Dublin. On October 27, 1880, however, as many as 2·736 inches were measured, and on August 13, 1874, also 2·482 inches of rain were registered. I may add that a tropical downpour, amounting to 1·719 inches, occurred in Dublin and its immediate vicinity on the 4th of August, 1885. The local character of this torrential rain was remarkable—even at Greystones, Co. Wicklow, distant 17 miles, the fall amounted to only ·170 inch, or less than one-tenth of the measurement in Dublin.

In a series of exhaustive papers on the “Climate of the British Islands,”^a Mr. Alexander Buchan, F.R.S.E., Secretary to the

^a Journal of the Scottish Meteorological Society. Third Series. William Blackwood and Sons, Edinburgh and London.

Scottish Meteorological Society, observes—"The only part of Ireland where the rainfall falls short of 30 inches, and even there it does not fall below 29 (? 28) inches, is a small district around Dublin." He offers no explanation of this, but it clearly depends on the geographical surroundings of Dublin—its situation in the east of the island, and the grouping of high lands to the S.E., S., and S.W. of the city, whereby the rainbearing winds are drained of their superabundant moisture before they reach the valley of the Liffey and the plains lying north of that river.

The climate of Dublin is, in the fullest sense, an *insular* one, free from extremes of heat and cold—except on very rare occasions—and characterised by a moderate rainfall (about 28 inches) annually, which is distributed, however, over a large number of days (about 195 in each year). Clouded skies, a high degree of humidity, and a prevalence of brisk winds—chiefly from westerly points of the compass—make up the climatology of the Irish capital.

In common with the rest of the British Islands, Dublin owes its mild equable climate to the proximity of the North Atlantic Ocean and its surface current of warm water—usually called "The Gulf Stream," because its head-springs arise in the Gulf of Mexico. This sets in a northeasterly direction, laving in its course the western shores of Europe, and carries even into the Arctic Regions north of Scandinavia temperatures from 20° to 30° above those due to the latitude alone. But local natural advantages as regards situation exercise a further beneficial effect on the climate of Dublin. A few miles S. of the city lies a range of mountains, with summits varying in height from 1,000 to more than 2,500 feet. This mountain chain intercepts the vapour-laden winds at all points between S.S.E. and S.W., and so the rainfall is diminished and the sky is comparatively cleared during the continuance of the southerly and southwesterly winds which so frequently prevail. The absence of any very high ground to the northward of the city—with the exception of the Hill of Howth, which rises, however, only to 563 feet—also prevents excessive precipitation with S.W. winds. It is true that with easterly (S.E. to N.E. or N.) winds the precipitation (often in the form of hail, and in winter of sleet or snow) in and about Dublin exceeds that which occurs at such a time inland or on the Atlantic coasts. Were it not for this "lee-shore" condensation the Dublin rainfall would be considerably smaller even than it is.

The second local feature which ameliorates the climate of the

capital, is the proximity of the sea to the eastward of the city. The keen, dry, searching easterly winds of winter and spring are much softened in their passage across the Irish Sea, so that during their prevalence the thermometer occasionally stands some 5° or upwards higher in Dublin than it does at Holyhead, although this latter place is actually on the sea. It is true that the converse holds good during westerly and north-westerly winds, when severe frost sometimes occurs in winter in Dublin, while the thermometer remains decidedly above the freezing point at Holyhead. Yet these latter winds are never so piercingly cold and parching as those from easterly points. Nor is it in winter merely that the Irish Sea confers a benefit upon Dublin. In calm, clear weather in summer-time, no sooner has the sun mounted high in the heavens than a cool, refreshing sea-breeze—a typical “inbat,”^a as the modern Greeks call it—sets in towards the land, so that consequently extreme or oppressive heat is rarely experienced. Indeed, an oppressive atmosphere happens only when a damp, warm S.W. wind is blowing, with a more or less clouded sky. Temperatures above 80° in the screen in Dublin nearly always coincide with winds off the land, from some point between S. and W., and a clear or only slightly clouded sky.

Among climatic epiphenomena, the infrequency of thunderstorms and the relative frequency of hail-showers in Dublin, are worthy of note. In winter fog and frost often prevail in the city, when a northerly breeze is blowing along the coast, accompanied with a higher temperature and perhaps showers of rain. Lastly, in summer, with a westerly wind, heavy planetary showers fall at times in the valley of the Liffey, while the neighbouring higher lands enjoy dry weather.

OXALIC ACID AS AN EMMENAGOGUE.

DR. V. POULET contributes an article to the *Gazette Hebdomadaire* (No. 20, 14 Mai, 1886) lauding the efficacy of oxalic acid in different forms of amenorrhœa. No other emmenagogue that he knows can, he says, compare with it in the certainty of its effects. He reports five cases in which menstruation came on during its administration according to the following formula:—Oxalic acid, 2 grammes (ʒss.); tepid water, 200 grammes (ʒvi.); syrup of oranges, 60 grammes (ʒij.). A tablespoonful hourly.

^a Evidently a derivative from ἐμβαίνω.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Dictionary of Practical Surgery, by various British Hospital Surgeons. Edited by CHRISTOPHER HEATH, F.R.C.S.; Holme Professor of Clinical Surgery in University College Hospital; Member of the Council and Court of Examiners of the Royal College of Surgeons, England. Two Vols. Pp. 970 & 884. London: Smith, Elder & Co. 1886.

“THE Dictionary of Practical Surgery will, it is hoped, supply a want in the library of the busy practitioner, who necessarily often meets with cases of surgical disease or injury on which he desires to have immediate information as to diagnosis and treatment.” We venture to think that the Dictionary will have even a wider field of usefulness, and will be referred to by many for information other than that specified by the editor. It would be manifestly impossible to enter into detailed comment or criticism on the various subjects dealt with, for the work covers the whole field of surgery. We shall be satisfied to restrict ourselves to the general scope of the work, and to point out its inherent merits as a whole. It is not the work of a single man, however large his experience, or renowned as a surgical author he may be. Appended to the second volume we find an Index of Authors comprising 116 names, all well known in connection with the subjects of which they treat. Three only of these are resident in Dublin, but they are representative men in the subjects allotted to them. Dr. Cruise has an article on the Endoscope; Professor Stokes contributes articles on Amputations, Amputation : t the Ankle, Amputation of the Arm, and other articles on the Special Amputations through Limbs and at Joints; Mr. Swanzy treats of Diseases of the Conjunctiva, Injuries of the Conjunctiva, Pterygium and Pinguecula. These are all excellently written articles, and make us all the more regret that Dublin surgery should not have been more represented.

Among the other authors we may allude to a few, to show how well, as a rule, the various subjects have been allocated to men

competent to speak with authority. Connected with the Radical Cure of Hernia we naturally expect to find the name of Professor Wood. Tumours of the Bladder find their exponent in Sir Henry Thompson; Rupture of the Bladder in Mr. Rivington. Other Bladder Diseases are treated of by Mr. Buckstone Browne, Sir Henry Thompson's assistant; and Lithotomy and Lithotrity are ably discussed by Mr. William Cadge. Mr. Berkeley Hill contributes the articles on Stricture and the Various Diseases of the Urethra. Intestinal Surgery comes from the pen of Mr. Frederick Treves, whose well-known manual on Intestinal Obstruction proved him to be an authority in this field. He is also the author of the articles on Hernia, and on the Various Affections of the Lymphatic Glands. Mr. Richard Barwell writes on Hectic Fever, Scrofula, and Tubercle. In his article on Scrofula he clings to the diathetic nature of scrofulosis, and completely ignores the *rôle* played by tubercle infection. The Surgery of the Kidney has been entrusted to Mr. Barker, including articles on Nephrotomy, Nephrectomy, Nephrolithotomy, and Nephrorraphy. On these subjects he is already a well-known author.

Of course the article on Antiseptic Surgery has been written by Mr. Watson Cheyne. With his views and with the clearness of his style we are already familiar. True to his great master, he still clings to the carbolic gauze and the other constituents of the Listerian method as the only aseptic method, and will not concede the term to the various modifications of it now almost universally adopted in Germany and elsewhere. Mr. Jonathan Hutchinson again shines out in the realm of Syphilis. Mr. MacEwen takes up the subjects of Brain Surgery and Osteotomy, Grafting, and Tracheal Catheterism. Under the head of Grafting he describes skin-grafting, sponge-grafting, and bone-grafting, this last being a most interesting paragraph. Injuries of the Back and Spine are ably discussed by Mr. Herbert Page. Abdominal Surgery is written by the editor, Mr. Heath, besides articles on Aneurysm and Diseases of the Jaws. Abdominal Tumours, Ovariectomy, Oöphorectomy, &c., come from the pen of Mr. Knowsley Thornton; and Sir James Paget, whom all men delight to honour as one of the noble patriarchs of the profession, contributes, in his own eloquent style, an article on Old Age. We have only culled a few articles as examples of the whole. The authors we have named are a sufficient guarantee that the matter of the work is good, and many names we could have mentioned testify to the same excellence.

Sufficient has, however, been said to show that this book is likely to become popular and to find a place on every surgeon's bookshelf. We can strongly recommend it. The pages are printed in double column, in good clear type, and on good paper. There are no illustrations, "on account of the extra space which would have been occupied, and also on account of the time necessary for the production of original woodcuts;" and we think the editor has exercised a wise discretion.

History of the Royal College of Surgeons in Ireland and of the Irish Schools of Medicine, including numerous Biographical Sketches; also a Medical Bibliography. By SIR CHARLES A. CAMERON, President of the Royal College of Surgeons in Ireland. Dublin: Fannin & Co. 1886. Pp. 760.

IN giving to the world this remarkable work, Sir Charles Cameron may with justice appropriate to himself the words of Horatius Flaccus, penned well-nigh two thousand years ago—" *Exegi monumentum ære perennius.*"

Some idea of the extent and comprehensiveness of the subject-matter contained in the handsome volume before us may be gathered from the statement that, in addition to a detailed history of the Royal College of Surgeons in Ireland, the work contains:—1st. An account of the Medical Books published in Ireland up to the beginning of the nineteenth century; 2nd. A history of the Dublin Guild of Barber-Surgeons; 3rd. An account of Medical Teaching and Examination in Ireland prior to the foundation of the Royal College of Surgeons; 4th. Biographical sketches of the Presidents of that College; 5th. An account of the School of Surgery connected with the College, as well as of the private Schools of Surgery and Anatomy in Dublin and the provinces; 6th. More than 300 biographical sketches of the professors of the College, and of the teachers in the private schools.

The first chapter is on the progress of medical knowledge and literature in Ireland up to the year 1700. Sir Charles Cameron quotes, from Southey's edition of the "*Morte d'Arthur*" and from Hammer's "*Chronicles*," interesting anecdotes illustrative of the knowledge of medicine possessed by women even in very early times. The former quotation is given as follows in Dr. William D. Moore's "*History of Pharmacy in Ireland*," which first appeared as an original communication in the number of this

Journal—then the *Dublin Quarterly Journal of Medical Science*—for August, 1848, and to which paper the author might very well have referred, particularly when writing of the “Barber-Surgeons:”—

“Kynge Anguysshe for grete favoure maade Tramtryst to be put in his doughter’s ward and kepyng, by cause *she was a noble surgeon*. And whan she had serched hym she fond in the bottome of his wound that therein was poyson, and soo she heled hym within a whyle, and therefore Tramtryst cast grete love to la beale Isoud, for she was at that tyme the fairest mayde and lady of the worlde.”

In a supplemental note Dr. Moore observes that Chapelizod—a pretty suburban village in the valley of the Liffey, near the Phoenix Park—is said to derive its name from “La Belle Izod,” daughter of King Aengus.

Sir Charles Cameron remarks that “epidemic influenza is first described in an Irish MS. of the fifteenth century under the names of *fuacht* and *sloadhan*.” This latter word should be “*slaodan*”—“a cough” or “cold.” Quaintly enough it is stated that the disturbed condition of Ireland during the greater part of the sixteenth, seventeenth, and even the eighteenth centuries greatly retarded and often arrested the progress of medical knowledge. It would, we fear, be difficult to find a period, however short, either in mythical or in historical times, when our ill-fated country could be described as otherwise than “disturbed.”

Chapter II., running to 28 pages, contains an admirable account of medical bibliography in Ireland during the eighteenth century. From this we learn that Sir Edward Barry, Bart., who was a Doctor of Medicine of the University of Dublin and became President of the King and Queen’s College of Physicians in 1749, wrote a treatise on Consumption of the Lungs in 1726. In this he states that under certain conditions consumption is contagious. He refers to a theory of the causation of the disease, put forward by Dr. Martin, which reminds one of the bacillar theory of tuberculosis advanced by Koch. Barry rejects Martin’s hypothesis—that “ulcers in the lungs take their first origene from *animalcules*”—on the ground that the atmosphere teems with minute organisms which enter the body, but have no permanent abiding place therein, unless in disorganised structures incapable of resisting their attack. Sir Edward Barry seems to have been a judicious and shrewd physician. A contemporary, Dr. Humphrey

Markwell, a practitioner in Dublin, in a pamphlet published in 1727, condemned the practice of indiscriminate venesection which prevailed in his days, and we thoroughly agree with him in considering that it would be desirable to render blood-letting in smallpox a penal offence unless when performed under medical direction.

In alluding to a little book of 80 pages, entitled “*Pharmacomastix*,” by the well-known Dr. Charles Lucas, M.P., and published in 1741, Sir Charles Cameron does not quote an instructive passage describing the weights used by apothecaries in Dublin at that time. Lucas says:^a—“When a physician writes for an *ounce* of any medicine, he expects *eight drachms* of *sixty grains* each, according to the table of weights prefixed to the dispensatory; but he unexpectedly falls short of about *fifty-four* grains. For instead of the *medical*, the *civil*, or *avoir-du-poize*, weights are used, each ounce of which contains but about *seven drachms* and *six grains* of the former weight.”

A reference to Sir Fielding Ould’s “*Treatise on Midwifery*” (1742) introduces an account of the short-sighted policy pursued by the President and Fellows of the King and Queen’s College of Physicians of that day in refusing to examine “man-midwives,” as obstetricians were then called, “on the ground that the practice of midwifery was derogatory to the dignity of the profession of medicine.” This refusal cost the College of Physicians the privilege of examining for medical degrees in the University of Dublin.

At page 29 there is an interesting history of the earliest Pharmacopœias published in Ireland—the first of all being a reprint in 1746 of the Pharmacopœia of the Royal College of Physicians, London. On the same page there is an odd mistake in a date. We are informed that the King and Queen’s College of Physicians issued in 1794 a limited number of a specimen pharmacopœia, which with some alterations re-appeared in 1791. The latter date is correctly given as 1799 at the end of the volume in a short table of “*Errata*,” which testifies to the general accuracy of the letter-press throughout the work.

In this same chapter allusion is made, in a brief historical sketch, to the principal medical dinner-clubs, which do so much to maintain our friendly relations with one another, and which bear eloquent testimony to the social habits of the profession in Dublin.

^a *Loc. cit.* p. 64. This curious old pamphlet is to be found in the Library of Trinity College, Dublin (FF. n. 44. Medical Pamphlets. No. 3).

Among the authors who flourished about the middle of the last century was Dr. Edward Foster, who wrote on hospitals and on midwifery. Sir Charles Cameron quotes Dr. John Gilborne's ode, entitled "Medical Review : a Poem," published in 1775, to show that Foster was a teacher as well as a practitioner. We reproduce the lines, as they contain evidence that even at that remote period women occasionally studied medicine and surgery :—

"Judicious FOSTER feels the latent Pulse,
To hidden Maladies gives quick Repulse,
In Parturition brings propitious Aid—
Each Dame retrieves that has by him been laid.
He teaches Pupils, either Sex, apart,
In learned lectures his mysterious Art."

At page 40 Dr. John Charles Fleury is mentioned as the author of an anonymous *brochure* on the Epidemic Catarrhal Fever of 1775, but it is not stated that he was Physician to the Meath Hospital from 1767 to 1786. It is interesting also to note that Fleury's descendants have since played an honourable part as citizens of Dublin—the Rev. Charles Marlay Fleury, D.D., was celebrated as a preacher of rare eloquence, and acted as Chaplain to the Molyneux Asylum for Blind Females for a long series of years, and one of his sons, the Rev. Charles W. Fleury, M.A., is at present an Assistant-Chaplain to the same institution under its modern name of the National Institution for the Blind, Leeson Park, Dublin.

In 1793 Whitley Stokes, grandfather of Professor William Stokes, who is now the President of the Royal College of Surgeons in Ireland, published in Dublin, and in the Latin tongue, his thesis for the degree of M.D. in the University of Dublin. The subject of the essay was Respiration.

Chapter III. gives a very full account of the rise and fall of the "Barber-Surgeons," with the various charters granted to Irish Surgeons by Queen Elizabeth and her Majesty's successors. At page 80 there is a beautiful facsimile of a Dublin "barber-chirurgion's" certificate, dated 1639, from Dr. William Frazer's collection of MSS.

The state of surgical education and examinations in Ireland, prior to the foundation of the Royal College of Surgeons, is discussed in Chapter IV. Sir Charles Cameron does not, however, neglect the history of Physic in Ireland. He points out that in 1654 a Fraternity of Physicians was established in Trinity Hall, a building belonging to the University of Dublin, situated behind

the south side of Dame-street. It lasted only until 1667, when it was reorganised into the "College of Physitians in Dublin," at Trinity Hall, by a charter of Charles II. Sir Charles very truly adds: "This College must be regarded as a dependency of the University, as the Board of Trinity College appointed the President, and in other ways the institutions were connected." He points out that, under the Charter of William and Mary (1692), the Fellows and Licentiates of what then became known as the "King and Queen's College of Physicians in Ireland," might, if they chose, legally practise surgery as well as medicine. In relation to this point, he observes that in an Act of Parliament passed in 1743 a Professorship of "Chirurgery and Midwifery" was constituted in connection with the College of Physicians. The "School of Physic in Ireland" was reorganised in 1784 by an Act of Parliament (25 Geo. III., c. 42), and in 1800 the "School of Physic Act" (40 Geo. III., c. 84) incorporated the School of the College of Physicians with the Medical School of the University of Dublin, under the joint control of the two bodies—the Provost and Senior Fellows of Trinity College, and the President and Fellows of the College of Physicians. This same chapter (IV.) contains an enumeration of the Surgeons-General and Physicians-General in Ireland during nearly two centuries, and an account of the institution of the existing medical offices of State.

In Chapter V. we approach for the first time the more immediate subject-matter of the volume—the history of the Royal College of Surgeons in Ireland. On the 29th of March, 1780, a number of surgeons constituted themselves into the "Dublin Society of Surgeons." They dined together quarterly—a further proof that it has always been the custom of Irish physicians and surgeons to act on the Horatian principle—"*dulce est desipere in loco.*"

It is interesting to note that "the birth of the Royal College of Surgeons in Ireland fitly took place in the great maternity founded by Surgeon Bartholomew Mosse. On Tuesday, the 2nd of March, 1784, the voice of the College was first heard in the board-room of the Rotunda Hospital." Chapter VI. proceeds to give an account of the growth and progress of the College under their first Charter, which bears the date of February 11, 1784. The second Charter, granted by George the Fourth, on September 19, 1828, is printed in full in Chapter VII. The first meeting of the College under their new Charter was held ten days later (Sept. 29, 1828), and the closing months of the year were occupied in framing new

by-laws. In 1830 the educational curriculum compared favourably with that of any other licensing medical body in Europe, and it cannot be denied that the diplomas of the College were held in high estimation about this time. Sir Charles Cameron well observes that "for many years anatomy and surgery were taught by the same person. The teacher knew exactly the kind of anatomical knowledge necessary for the proper performance of surgical operations, and that kind of anatomy he taught with a thoroughness which probably was not exceeded in the schools of any other city. The kind of anatomy termed minute or transcendental received, no doubt, scant attention in the Dublin Schools half a century ago; but the object of the teacher was the education of surgeons, not the advancement of anatomical science. It is, nevertheless, to be regretted that so few of the many accomplished anatomists in Dublin during the first half of the century devoted themselves to original research. Had the reverse been the case, the Dublin School might have contributed as brilliantly to anatomical science as it did to the art of surgery and the practice of physic." The institution of a Sub-section of Anatomy and Physiology in the Academy of Medicine in Ireland bids fair to be the means of wiping out any such reproach upon the Dublin School by fostering the study of minute anatomy.

In 1832 the City of Dublin Hospital was founded by the Professors of the School of Surgery connected with the College; and on the 17th of November in the same year the "Surgical Society of Ireland" met for the first time. It flourished for many years, and in 1882 merged in the Academy of Medicine in Ireland. In 1844 the College lost by death the services of Mr. Henthorn, who, since the foundation in 1784, had, with unflagging zeal and extraordinary punctuality, discharged his duties as their secretary. In the same chapter (VIII.), from which we have culled the foregoing information, there is a most graphic, even thrilling, account of the "sack-em-up" or "resurrection-men" and their doings prior to the passing of the Anatomy Act of 1832.

In 1839 the College endeavoured to effect a union of the physicians and surgeons, under the designation of the "Medical Union of Ireland." Overtures, with this object, were made to the King and Queen's College of Physicians, but they were not entertained by that body. This was, apparently, the first attempt which was made to found a national collegiate faculty for Ireland.

Chapter IX. contains the Supplemental Charter of Victoria,

dated January 24, 1844, and in Chapter X. the history of the College is continued under this Charter. Sir Charles remarks that “the Council decided—perhaps with too much liberality—to allow the persons who obtained Letters Testimonial up to the 10th of January, 1845, to become, without further examination, Fellows. It was also resolved to admit, during one year, all surgical civil practitioners and medical officers in the Army, Navy, and East India Company’s Service, provided they were of seven years’ standing.” This was, therefore, known as the “Year of Grace.” The large accession of Fellows which in consequence accrued in 1844 replenished the College treasury, which had become somewhat impoverished. The year’s receipts amounted to £5,908, of which £4,368 were received from the newly-elected Fellows.

During the years 1856–58 the question of medical legislation engaged the attention of the Council. The Medical Act, 1858, passed on August 2 in that year, and we are told (page 223) that “the chief objection the College had to this Act was its practical recognition of the apothecaries as surgeons.”

A complaint having been made that fees not mentioned in the by-laws were charged by the College officials, the Council on July 5, 1861, passed the following resolution:—“That Licentiates of the College are bound by immemorial custom and usage to pay a fee of one guinea to the Registrar of the College on receipt of their Letters Testimonial.” This has always appeared to us to be an indefensible custom, and we only wonder that the matter has not hitherto been tried at law.

This, the tenth chapter, possesses general interest from the historical review it contains of the many abortive attempts at medical legislation since 1858 and of the repeated failures to form a Conjoint Examining Board for Ireland under the permissive provisions of the Medical Act of that year.

On the 23rd of May, 1885, the second Supplemental Charter of Victoria was obtained, by which power was given, among other things, to educate, examine, and grant diplomas (even of Fellowship) to women. Quite recently Mrs. Mary Dowson, L.K.Q.C.P., has received the Letters Testimonial of the College of Surgeons on exceptionally distinguished answering.

In drawing the history of his College to a close, Sir Charles Cameron contrasts its numerical strength in 1785 and in 1885. In the former year the College numbered 41 Members and 13 Licentiates—total, 54; in the latter there were 363 Fellows,

3,580 Licentiates, and 512 Licentiates in Dental Surgery—total, 4,455 (not “4,465,” as printed in the book.)

This notice has run to so great length that it must suffice merely to mention the subjects dealt with in the remaining portion of the work. Chapter XI. presents us with a history of the College Library, the collection of books in which amounted in December, 1885, to 21,901 volumes. In Chapter XII. we have a history of the College Museum, which is nearly coeval with that of the College, for on the 16th of January, 1785, Mr. William Dease presented a collection of anatomical preparations, which formed the nucleus of the future museum.

In Chapter XIII. the connection between the College and the Navy and Army Medical Departments is traced. The chapter opens with a short account of MacLiag, who was secretary and physician to King Brian Boru, upon whom he was in attendance at the celebrated Battle of Clontarf, fought on Good Friday, April 23, 1014.

The succeeding three chapters are devoted to a series of biographical sketches of the Presidents of the College from 1784 to 1885. They sparkle with anecdote and *bonhomie*, and testify to the untiring exertions of Sir Charles Cameron to make the work a complete history of his College. The bead-roll of Presidents commences with the name of Samuel Croker King, President in 1784–85, and terminates with that of the author, Sir Charles Alexander Cameron, President in 1885–86.

A short chapter (XVII.) on the College School is followed by a long one (XVIII.) giving biographical sketches of the College Professors—sixty-five in number—all of whom, except Dr. Murray, Professor of Logic, were medical men. Arthur Jacob served longest as Professor, namely, forty-one years, and Charles Benson was thirty-six years in office.

With Chapter XVIII. the history of the College of Surgeons ends, but the three chapters which follow are amongst the most valuable and attractive in the book. Chapter XIX. contains the history of the unchartered, or private, schools of medicine in Dublin, beginning with Crampton's school, established in 1804 by Mr., afterwards Sir Philip, Crampton, and ending with Dr. Steevens' Hospital Medical College, which, overwhelmed by an untimely fate, was closed in 1880. The names and dates of the lecturers who from time to time filled the respective chairs in the different schools are included in the chapter; it is reserved, how-

ever, to another chapter (XX.) to present us with biographical sketches of these lecturers to the number of nearly one hundred and sixty.

A brief account of the School of Physic in Ireland and of the various provincial medical schools follows in Chapter XXI.; but there are no biographical sketches of the teachers connected with these institutions as such. Many of them, however, are mentioned in the preceding chapters, having been Presidents or Professors of the College of Surgeons, or teachers in the private schools before they became Professors in the School of Physic or provincial schools.

There are three appendices. The first—Appendix A.—in a series of tables, shows the attendance on the various courses of lectures delivered in the School of the College of Surgeons and at the private schools during the years 1833–38, inclusive; and also the number of students attending the lectures on Anatomy in the Medical Schools of Dublin during the sessions from 1849 to 1885–86.

Appendix B. sets forth the names of the Council, Officers, Examiners, and Professors of the College of Surgeons for the year 1885–86, and is therefore perfectly legitimate. Would that we could say the same for Appendix C., which is a lengthy extract from the *Irish Times* newspaper of April 29th, 1886 (not “May 28th,” as the date is erroneously printed), describing the ceremonies at the College of Surgeons on April 28, when “six honorary fellowships were conferred, a new museum was opened, and a statue to Mr. W. Dease, one of the founders of the College, was unveiled, in the presence of their Excellencies the Lord Lieutenant and the Countess of Aberdeen, Prince and Princess Edward of Saxe-Weimar, and a large and distinguished gathering”—all this illustrated by a picture reprinted from the *Graphic*, of May 8th, 1886, representing Sir Charles Cameron, as President of the College, in the act of conferring the Honorary Fellowship on Sir James Paget, Bart.

But, even granting that this excerpt is *en règle* in a work like that before us, what can be said in defence of the reproduction of the newspaper account of Sir Charles Cameron’s banquet on the evening of the ceremonials? *Pro pudor!* “The dinner was capitally served by Mr. R. H. Murphy. The following was the menu”—but, we forbear—and we would merely express regret that the classical character of a masterly work should be marred,

even in some slight degree, by what to our mind is a serious breach of good taste.

The volume is exceedingly well brought out. It is admirably printed by Mr. Falconer, of Upper Sackville-street, Dublin. The errata are comparatively few for so large a work, and the bindings—one in cloth, the other in leather with gilt edges—are singularly handsome.

In conclusion, we may honestly congratulate Messrs. Fannin & Co., the publishers, on the success which has attended their effort to render the work worthy of Sir Charles Cameron, and of the College over which he so ably presided during the Academic year which has lately drawn to a close.

The President and Council, at whose expense the work is brought out, with characteristic generosity have ordered that any surplus accruing from the sale of this publication shall be handed over to the Royal Medical Benevolent Fund Society of Ireland.

The Influence of Sex in Disease. By W. ROGERS WILLIAMS, F.R.C.S., Surgical Registrar to the Middlesex Hospital; Surgeon to the Western General Dispensary. London: J. & A. Churchill. 1885. Pp. 39.

THIS paper contains a great deal of statistical and other information on the relative liability of the sexes to disease—information which is not accessible in a collected form elsewhere. From the “general remarks” which precede the exposition of details we learn that, according to the Census of 1881, there was, in England and Wales, an excess of females over males of 694,635, and that the excess has been “slightly but steadily increasing during the last half-century;” that, while there were then living 105·5 females for every 100 males, male births are to females in the proportion of 104 to 100; that the mortality of males before birth exceeds that of females in the proportion of 140 to 100; that in the first year of life 126 boys die for every 100 girls; and “that at almost every subsequent age-period the males have a greater liability to death and a higher death-rate than the females, and this in increasing proportions.”

From an analysis of 11,100 cases of primary tumours, treated at four large London Hospitals, Mr. Williams deduces the following conclusions:—Females are more than twice as liable as males to new growths, the ratio being 67 to 33; but the preponderance

would be reversed, and the ratio become 1 to 1·4, if cases in which breast, uterus, or ovary is attacked were excluded; for in females 70 per cent. of all neoplasms affect the reproductive organs, in males but 7 per cent. Of cancers 79·1 per cent. in females attack the reproductive organs, in males 9·4. As to non-malignant tumours, females are more liable than males, in the ratio of 1·5 to 1. “Females are ten times as liable as males to adenomas, and more than twice as liable to lipomas and fibromas.”

Mr. Williams maintains, in opposition to the prevailing belief, that women are more liable to insanity than men, as “might have been expected, *à priori*, from the greater nervous instability of women, and from the extreme susceptibility of their sexual organization.” He relies for support of his view on the two facts—that at any given time more women than men are insane, and that female mortality due to insanity exceeds male. In 1881 there were in England 44,714 females and 34,789 males insane; and the mortality returns show deaths of 116 female lunatics for 100 male. The greater proportionate mortality of male lunatics (106·8:100), or the excess of female population (105·5:100), by which it is sought to explain the admitted fact that female lunatics exceed male in number, is insufficient for the purpose. The statistics collected by Mr. Williams negative two other prevalent beliefs. Women are not very much more liable to femoral than to inguinal hernia. In 1,442 cases of hernia in females of all ages, Kingdon found a preponderance of only 54 of femoral over inguinal. The greater liability of males to vesical calculus has been exaggerated. It is generally estimated as twenty to one; it is probably only ten to one.

We thank Mr. Williams for this valuable addition to trustworthy medical statistics.

What is Medicine?—Annual Address delivered before the American Academy of Medicine at New York, October 28th, 1885. By ALBERT L. GIHON, A.M., M.D., Medical Director, U. S. Navy; President of the Academy. Philadelphia. 1886. Pp. 28.

THE American Academy of Medicine has been nine years established, and numbers but 291 Fellows out of some 97,000 graduates in medicine in the United States. In September, 1876, the Academy was founded at Philadelphia by eight men. The roll has since been lengthening year by year; but progress, if sure, is slow.

One cause, the chief cause, of this slow advance, is the restriction of membership to graduates in Arts; and Dr. Gihon's Address is mainly devoted to a defence of this restriction and a plea for improved pre-professional education. He has our fullest sympathy in both respects. We would gladly see a University "liberal" education made an essential qualification for the higher honours of our medical institutions; and much yet remains to be done to ensure an adequate educational foundation for the professional superstructure which our schools undertake to raise. We, in these islands, have not yet long emerged—in some parts of them, we fear, we have not emerged at all—from a condition differing only in degree from that of which the leaders of the profession in the United States complain. Of 89 "regular medical colleges in good standing on the first of this year, in the United States, only 41, up to two years ago, announced that satisfactory evidence of preliminary education would be required of matriculants; to-day there are 85, but the character and extent of the preliminary education is significantly left undefined in many of them, or it is well understood that the college authorities, who are to be the judges, are easily satisfied; and the fact is, as one college frankly announces, that students 'are eligible for the attendance of lectures by payment of the matriculation and lecture fees.'" Illustrations of the results of this state of things abound in Dr. Gihon's Address. We shall cite but one:—" 'I don't like this kind of work; I'm going to be a doctor,' said a young mechanic painting my house; 'but I'm not nineteen yet, and it took A. B. (mentioning a friend) only two years to get through, so I'll not begin until next fall,' when the course commenced at the school he had selected—selected because his friend had gone through with so little trouble. . . . Perhaps he was the very man who, two years after his graduation, wrote about the *bottony of jolop* in the course of his examination for admission into one of the national services."

We cannot conclude this brief notice without quoting a passage which shows one particular in which America sets us an example in medical education which we are slow to follow:—"Hygiene," says Dr. Gihon, "which once had an uncertain tenure as a lectureship, or an adjunct professorship tacked on to Toxicology or Medical Jurisprudence, or eking out some minor specialty, now, in seventy-three of the one hundred and one schools in the United States and Canada, occupies a full professorship, and in importance claims priority of all the other practical chairs."

*RECENT WORKS ON MATERIA MEDICA AND
THERAPEUTICS.*

1. *Materia Medica and Therapeutics.* By CHARLES D. F. PHILLIPS, M.D., &c. London: J. & A. Churchill. 1886. Pp. 1,081.
2. *Materia Medica and Therapeutics: an Introduction to the Rational Treatment of Disease.* By J. MITCHELL BRUCE, M.D. London: Cassell & Co. 1886. Crown 8vo. Pp. 582.
3. *A Manual of Practical Therapeutics. Considered with reference to Articles of the Materia Medica.* By EDWARD JOHN WARING, C.I.E., M.D., &c. Edited by DUDLEY W. BUXTON, M.D., B.S. Lond., &c. Fourth Edition. London: J. & A. Churchill. 1886. Pp. 638.
4. *A Physician's Pharmacopœia.* By J. BAILY, Pharmacist, Margate. London: J. & A. Churchill. 1885. Pp. 106.
5. *A Summary of New Remedies.* By T. M. DOLAN, M.D. London: Baillière, Tindall, & Cox. 1886. Pp. 93.
6. *The Year-Book of Treatment for 1885. A Critical Review for Practitioners of Medicine and Surgery.* London, Paris, New York, and Melbourne: Cassell & Co., Limited. Pp. 316.

1. IN 1874 Dr. Phillips published a valuable work on "The Materia Medica and Therapeutics of the Vegetable Kingdom," and in 1882 a second volume—arranged on a similar plan—upon that of "Inorganic Substances." It was, we believe, his original intention to produce a complete treatise—of which these two works were instalments—on Materia Medica and Therapeutics. Instead, however, of carrying out this plan by the publication of a third volume, comprising the animal kingdom and the numerous organic compounds at present used in medicine, he has now included these subjects in a "revised, enlarged, and almost entirely rewritten edition" of his work on "The Vegetable Kingdom." Considering the great advances made in the ground embraced in the latter division during the last ten years, such a course was doubtless advisable, and it has had the result of producing a volume with which the only fault that can fairly be found is its bulk.

As both previous volumes were fully reviewed at the time of their appearance in this Journal, and are so well known to the profession generally, it is unnecessary now to recapitulate the plan of the work. Its great strength consists, we think, in the sections on the therapeutical action of the various drugs in different affections.

The experience and information upon which the use or application of a particular medicine is indicated, is evidently drawn from a very extended field, and shows that the author is not only, Baconically, "a large man," but also that he has skill in arranging and utilising the information he has collected. What makes this of more value is that in many cases he is able to corroborate the reported good effects of a certain line of treatment by his own experience, whereas in other cases he cannot do so. Such information will be of great use to almost all practitioners, and especially so in the case of some recent additions to the Pharmacopœia, and other non-official drugs. For instance, Dr. Phillips has especially observed good effects from gelsemium in the febrile excitement of dentition in children. He has had excellent results from cimicifuga in long-standing chorea, occurring in hysterical subjects, and in those with menstrual irregularity and rheumatic pains. He has also seen well-marked hysterical paralysis yield quickly to picrotoxin; and in facial neuralgia of periodic character he has frequently prescribed eucalyptus with advantage. Pulsatilla, he says, is often of value in certain cases of uterine disorder; in gastric ulcer and intestinal catarrh he has had favourable experience of resorcin; and has obtained excellent results from creasote in the vomiting and diarrhœa of enteric fever; and from aconite (1 to 3 minims every half hour for six or eight doses) in phthisical hæmoptysis, and in other forms of hæmorrhage. Dulcamara, which has now been omitted from the Pharmacopœia, Dr. Phillips considers by no means a useless medicine. He has found it serviceable in the intestinal catarrh of children, and has employed it also in humid asthma, and always with some success.

These are but a few of the many instances in which Dr. Phillips adds his personal experience to that of the numerous authorities he quotes.

The descriptions of the active ingredients and physiological actions of the drugs described are sufficiently complete and well up to the knowledge of the day. Indeed, the entire work is one of value and importance, and the extensive index of disease it contains will be found most useful for reference.

2. We have observed with pleasure that Dr. J. Mitchell Bruce has issued a third edition of his book on "*Materia Medica and Therapeutics*." The first edition has been already reviewed in this Journal in 1884, and it is, therefore, unnecessary to give a detailed

examination of the contents of the work. The present issue is better than the former ones in many respects. The chapters on Inorganic and Organic Materia Medica have been carefully rewritten and adapted to meet the requirements of the new British Pharmacopœia. They now include all the later additions to that work, together with many drugs which are in constant daily use, but are not official. So as to bring the present edition up to the highest level of therapeutical knowledge, the chapter on General Therapeutics has been revised, and has had some few additions made to it.

We feel fully confident that this new and enlarged edition will occupy a foremost place—as it well deserves—amongst the many text-books on Materia Medica and Therapeutics.

3. Fifteen years ago, when its third edition was published, “Waring’s Therapeutics” was, we know, a justly favourite and useful work of reference. It took, we believe, the lead in adopting a plan, which has since been frequently followed in works on Materia Medica and Therapeutics—viz., that of furnishing an Index of Disease. There is no doubt but that such an index is at times a great help and assistance to a practitioner, and that compiled by Dr. Waring is perhaps as complete and suggestive as any other. The plan of the work consists, first, of a brief description of the medicinal properties and action of articles of the materia medica, arranged in alphabetical order, followed by an account of their therapeutical uses in distinct affections, or in allied classes of cases, set forth in separate numbered paragraphs. In many instances the modes of administration, or the prescription of the authority cited, are detailed; and the references to periodical literature, as well as to the works of standard writers, are very numerous, and up to date.

In the preparation of this edition the author has been ably assisted by Dr. Buxton, who has contributed articles on several “New Remedies” lately introduced into practice. Considering that some of these are now contained in the “British Pharmacopœia,” it would, we think, have been advisable to have given some general indication of those which have not as yet received official recognition in that volume.

4. The purport of Mr. Baily’s compilation is to supply a number of formulæ of unofficial preparations, with the object of securing

uniformity in dispensing, and of discouraging the use of secret nostrums. The author has had thirty years' practical experience in pharmacy, and prescribers and dispensers can, we doubt not, draw useful hints or suggestions for novel combinations from an inspection of Mr. Baily's formulæ. Over fifty prescriptions are furnished for the group of Trochisci alone.

5. New Remedies! New Remedies!! Alas, for the zealous reader. Luckily many of the proposed new drugs have a very ephemeral existence, and those who desire "to keep pace with modern advances" (!) will find Dr. Dolan's summary useful as a reference index. Under each drug is given a brief statement of its source, therapeutical uses, preparations, and doses.

Four and a half pages are devoted to a disquisition upon malt-extracts, and a good deal of the text appears to be derived from the advertisements of that enterprising firm, Parke, Davis & Co., of Detroit.

6. We welcome another issue of "The Year-Book of Treatment"—a useful periodical, which professes, and not in vain, to give "not only a complete account of all the more important advances made in the Treatment of Disease, but to furnish also a Review of the same by competent authorities." The work is well done and completed by excellent indexes, one of authors quoted and one of subjects.

A Short Note on Peritoneoclysis, Hypodermoclysis, and Vesicoclysis in Cholera. A Paper read before the Bombay Medical and Physical Society, Feb. 6, 1885. By Surgeon-Major CAMERON MACDOWALL, Bombay Army. London: J. & A. Churchill. Pp. 26.

"I'LL assure you a' uttered as prave 'ords as you shall see in a summer's day." Nothing so magnificent—so far as nomenclature goes—has come under our notice since, in early youth, we met "dacryocystosyringocataclysis" in an ophthalmological treatise. "Vesicoclysis" is especially fine, because it combines two learned languages in one word. The paper is a very dilute solution of a suggestion (for which originality, though not priority, is claimed), to treat cholera by injecting saline solutions, or milk, into the cavity of the peritoneum. Mr. Macdowall, in one case, adopted a

suggestion made by a Bengal medical officer, to treat the collapse-stage of cholera by injection of fluid into the cellular tissue; and he seems much pleased with the result, although he did not repeat the experiment. The patient made an “almost miraculous resurrection,” and died on the second day. *Il est mort guéri*. The pamphlet is dedicated to Sir Joseph Fayrer and Dr. B. W. Richardson, “owing to the desirability of quickly bringing” its proposals “into notice. . . . Two such names may attract such attention to it as may be useful to suffering humanity.”

What is Consumption? By G. W. HAMBLETON, Licentiate of the King and Queen's College of Physicians, Ireland. London: J. & A. Churchill, 11 New Burlington-street. 1886. Pp. 64.

THE author of this tractate seems to be afflicted with the notion of having made a discovery which it would be criminal to refrain from publishing. In our simplicity we would have thought the answer to the title of this little book might be, “A popular name for pulmonary phthisis.” In Chapter VI. we at last find the author's answer to the question, What is consumption?—“Therefore, consumption is the process whereby this loss or absence of the power of the lungs to adjust themselves to their external conditions is brought about” (p. 46). In the same chapter, at p. 49, the question is reiterated—“What is consumption? The process by which are removed from the human race those who have an excess of the body to the work demanded of it, which is shown by the loss of the powers of the lungs to adjust themselves to their external conditions, and the effect of which is to establish in the race a balance between the body and the work it has to perform.”

The author makes light of the influence of heredity, and asks if this theory (inheritance) is true, why, after so many centuries of inheritance, is there so comparatively little disease? The obvious reply is because the phthisical do not survive, in virtue of their inherited proclivity to disease. He is inclined to treat with equal levity the effects of cold-catching, and asks—“When shall we be able to get rid of the pernicious effects of this disastrous theory?” To this we would answer, without hesitation—Never. We think a fuller experience of unresolved pneumonias—chronic catarrhal pneumonias—“neglected colds,” will teach the author that catarrhal tendencies, or cold-catching, or the inability to shake off

catarrhal inflammatory attacks of the air passages, are entitled to rank among the causes of consumption.

He is totally against the bacillary theory of tuberculosis, but the following sentence (p. 25) will modify the value to be attached to his rejection of such views:—"Moulds are rich in the germs of bacilli, but the death-rate from consumption of gardeners is little higher than that of agriculturists or fishermen."

The author (p. 13) hints at experimental investigations on the ætiology of consumption, which he was obliged from personal necessity to commence in 1873. We are not told what the experiments were, but (p. 60) he ascertained from them "that consumption is due to the conditions that reduce the breathing surface of the lungs below a certain point."

In page 63 we read—"If we will, we can reduce this scourge (consumption) to insignificant proportions; if we will, we can prevent another generation of 'inherited' cases arising; if we will, we can, in a few short years completely stamp it out of our army." The present work does not say how this is to be done, but in the preface we are promised "a Monograph on the Scientific Treatment of Consumption," as soon as he has a sufficient number of cases to show how his facts ought to be applied to the treatment of the disease.

Practical Human Anatomy: a Working Guide for Students of Medicine, and a Ready Reference for Surgeons and Physicians.
By FANEUIL D. WEISSE, M.D., &c. New York: William Wood & Co. 1886. Pp. 456.

THIS work on anatomy is brought out in a most superior manner, the letterpress being all that could be desired. The portion of the work, however, most deserving of praise is the plates (222 in number) which are sketched and drawn by Mr. Maximilian Cohn, from dissections by the author, in a highly artistic manner. Most of the plates and figures are entirely new—only about twenty being taken from standard authors—and are such as will recommend themselves to the reader, presenting a complete dissection of the body. The plates are grouped together throughout the book, at the termination of each dissection, and will thus be found of great practical utility to the practitioner who is desirous of refreshing his mind on the anatomical relations of any particular portion of the body.

The author carries out his work in the form of twenty-seven dissections, which exhibit a great amount of care and practical knowledge of the subject. The phraseology, however, is not sufficiently clear, in our opinion, to render the work a favourite one to the student, as throughout it is necessary for him to have a prior knowledge of the subject from some other work.

In the introduction we find three rules for the dissector, which we consider of great practical value—1. Know what you look for. 2. Work slowly and thoroughly. 3. Never let your knife cut when you do not know what it is about to divide.

In the first dissection, on the male perinæum, we find the author unites the fascias usually known under the names of the anal and posterior layer of triangular ligaments under the name of the levator fascia, and thus establishes in the mind of his reader the continuity of those structures which ought to be of great practical utility to the student and enable him to understand this intricate portion of anatomy.

Dissection IV.—The lesser sac of peritoneum is described as passing from the stomach to the transverse colon without entering into the formation of the great omentum. This condition is also figured in Plate 31. We must disagree with the author in this, as not only is the lesser sac always capable of being traced into the great omentum in early life, but we have also frequently met with examples in which this condition was to be demonstrated in subjects where an advanced period of life had been reached.

Dissection XIV.—The author describes dorsal ligaments to the interphalangeal and metatarso-phalangeal articulations in addition to those usually described. (In Dissection XII. an analogous description is given for the upper extremity). In this dissection also he describes a posterior ligament to the ankle-joint, and ignores the existence of a transverse ligament to the inferior tibio-fibular articulation as distinct from the posterior inferior tibio-fibular ligament.

Dissection XV.—This is the only dissection in which the author can be accused of carelessness, as we can find no description of the first stage of the axillary artery, while what description is given of the artery is extremely meagre. The superior boundary of the axilla, as given by the author, is also an innovation in which we fail to see merit.

Dissection XVII.—The mediastinum is described *in toto*, and not divided as usual; while the left lung is described as presenting an anterior face.

Dissection XXIV.—The thyroid axis is described as dividing into the inferior thyroid superficial cervical and suprascapular arteries. The subclavian in its third stage is made to give off the posterior scapular artery as a normal branch.

Dissection XXVII.—The posterior spinal arteries are described as uniting to form a single trunk.

From the foregoing remarks on the different dissections it will be seen in what a number of small particulars the author differs from what is usually received in this country. With respect to clerical errors, however, the work is singularly free from them—the only two we noticed being in the origins of the obliquus externus (page 47) and serratus magnus (page 287). In conclusion, we consider that although this book ought to be very useful to the practitioner—the plates being its special recommendation—still we cannot recommend it as a work for students where so many better text-books have issued from the press during the last few years.

Lewis's Pocket Medical Vocabulary. London : H. K. Lewis.
1886. Pp. 215.

THIS little pocket volume will be useful to the student, and with more careful editing and printing might have been made much more useful. Looking casually over its pages we found the following pronunciations marked, of which some are obviously misprints, and others are, perhaps, justifiable by appeal to vicious practice, but all are misleading to a student :—*ab'domen*, *andro'mania*, *ankylo'blepharon*, *arach'nitis*, *bima'nous*, *cura'tive*, *ecze'ma*, *entero'zoa*, *enter'oses*, *ento'zoa*, *eph'elis*, *hypochon'driasis*, *irrita'tive*, *manni'kin*, *paracen'tesis*, *py'rites*, *syn'ovia*, *tra'chea*, *umbil'icus*, *va'gina*, *vario'la*, *verrucu'lose*, *ver'tigo*, *verumon'tanum*, *ves'ica*. “Canula,” “sanatorium,” and “aneurism” are instances of mis-spelling; and the last term is defined “a dilatation or rupture of an artery.” The ambiguity in the meanings of *hemeralopia* and *nyctalopia* is not noticed. On the whole, however, the definitions are satisfactory. We hope to be able to give less qualified praise to a carefully-revised second edition of a book which undoubtedly supplies a want.

PART III.

HALF-YEARLY REPORTS.

REPORT ON OBSTETRIC MEDICINE AND SURGERY.

By WILLIAM C. NEVILLE, M.A., M.D., and M.A.O., Univ. Dubl.;
M.K.Q.C.P.I.; Physician to Pitt-street Institution for Diseases
of Women and Children; formerly Assistant Physician, Coombe
Lying-in Hospital and Maternity; &c.

THE TREATMENT OF WEAK AND PREMATURE INFANTS.

TARNIER.—“Des Soins à donner aux Enfants nés avant Terme.”—
Archives de Tocologie. Sept., 1885.

ERÖSS.—“Untersuchungen bezüglich der Temperatur-verhältnisse u. d.
Indicationen der kunstlichen Erwärmung frühzeitig
geborener Kinder.”—*Arch. f. Gynaekologie.* Bd. XXVII.
Hft. 3. S. 350.

THE two papers quoted form very interesting and no less valuable contributions to a question of the greatest practical importance. The old and still the ordinary method of managing premature or otherwise weak and puny children cannot be regarded as satisfactory or successful. Among the poorer classes of the community such children seldom live longer than a few days, and even among those who are well or comfortably circumstanced the successful rearing of a seven-months' child is usually accomplished only by the ceaseless attention of an exceptionally intelligent and devoted nurse. Two main difficulties have here to be contended against—those of warmth and food.

All infants, but weakly and premature ones in an especial degree, quickly succumb to the influence of cold, against which their slight nutritive activity allows them only to struggle feebly and unsuccessfully. The difficulty of the usual methods of treatment—*e.g.*, wrapping in thick layers of cotton wool, which prevents the radiation of their body heat, and keeping them close to a fire—

chiefly consists in preserving continuously an equable and sufficient temperature about them. One of the first deliberate efforts to meet this difficulty originated with Credé,^a whose method has been adhered to with very considerable success for more than twenty years in his Leipsic clinic. Credé's special apparatus consists of a double-walled, bath-shaped, copper receptacle for the infant. Between the double walls is an enclosed space which is capable of containing about 18 quarts of water which can be let in through an opening at its upper margin and let out through a stopcock below. The cavity of the inner copper lining is of a convenient shape and size to contain the infant comfortably enveloped and surrounded with soft cotton. For greater convenience the double-walled copper cot moves upon castors. When required for an infant the space between the outer and inner walls is filled with water at a temperature of about 120° F. The child, wrapped in soft flannel, is then laid in the cot surrounded by the cotton-wool, which forms its bed, so that its uncovered head only appears above the general level. The water requires to be renewed every four hours, or oftener where extreme prematurity requires a more equable and higher temperature.

Since 1881 M. Tarnier has been using his now well-known "couveuses," or incubators, in the Paris Maternité. The "couveuse," as intended for general use, together with the results which had up to that time attended its use, were well described by M. Auvard in the *Union Médicale* for December 15th, 1883. In a communication to the Académie de Médecine (July 15th, 1885) M. Tarnier renews his consideration of the subject, passingly adverting to the use of a couveuse, now so generally known as no longer to require special consideration, and dwelling at length upon a special method of feeding premature infants by "gavage."

In regard to the "couveuse" it is stated that the infants placed in it are kept surrounded by a temperature of from 30°–37° C. (86°–98·6° F.), according to their condition. The temperature usually maintained is one of 32° C. (89·6 F.), and the infants are thus kept for from a few days to six weeks. They are taken out of the couveuse whenever it is required to clean or feed them, M. Tarnier having observed no ill results to follow from these temporary exposures. To the use of the "couveuse," "gavage" has been added and regularly practised in the Maternité de Paris

^a Archiv. f. Gynaek. Bd. XXV. Hft. 1. S. 130.

since October, 1884, to the benefit of a large number of premature children. In practising gavage the instrument used is simply a red caoutchouc catheter, No. 18 Charrière in size. To the outer end of the catheter is adjusted a small glass funnel. With such an apparatus—easily improvised—the gavage of an infant is quite a simple proceeding. The infant is placed, with its head slightly raised, on the operator's knees, the catheter oiled, and then introduced as far as the base of the tongue, when the infant by instinctive movements of deglutition will carry it up to the entrance of the œsophagus, along the entire length of which it is to be gently passed. After having passed in about 15 cms. (say six inches) it will have reached the stomach. Then the nourishing liquid is to be poured into the funnel, from which it will quickly gravitate into the stomach. The catheter must be withdrawn by a quick movement, for if done slowly the liquid nourishment will follow the instrument and be expelled by regurgitation.

As a liquid nourishment M. Tarnier has tried ass's milk, pure, and mixed with eau sucrée or with beef tea, and obtained successful results. But nothing else, he believes, equals human milk, directly expressed for the purpose from the nurse's breasts.

It is impossible to state precisely how often and how much nourishment should be given, as all depends on the age and strength of the infant. As a general rule, it may be stated that in proportion as the infant is premature and weak so ought its meals to be frequent and small. Eight grammes of milk suffice for a "gavage" when the infant is feeble and very premature.

When the meals are excessive a very curious phenomenon presents itself. The infant increases rapidly, but the increase is due to a considerable œdema of its entire body. Hyper-nutrition would seem to be the cause of this œdema, as it disappears rapidly with more moderate supplies of food; while, on the contrary, if food be increased indigestion follows, and the infant will quickly succumb to gastritis and enteritis. These are the great dangers, with a view to avoiding which the meals should be lessened in quantity, while they can be multiplied if needful.

M. Tarnier exhibited two infants reared successfully by the "couveuse" combined with "gavage."

The first was a twin-infant, born on the 8th of June. Its mother considered herself as scarcely six months pregnant. When born it weighed only 1,020 grammes; its skin was semi-transparent and red, and its tissues had a gelatinous consistency—characters which

indicated a probable intra-uterine age of six months. This infant remained in the "couveuse" six weeks from the time of its birth. From June 8th to 12th it was fed every hour by "gavage," with 8 grammes of human milk; from June 12th to July 5th it was given 16 grammes every three hours, milk being allowed to flow into its mouth during the intervals, though how much was absorbed in the latter way it is impossible to say. After July 5th "gavage" was discontinued, as the infant was able to suck. Its weight diminished up to June 29th, when it weighed only 850 grammes, from which date it progressively increased.

The companion twin of that exhibited, subjected to exactly the same treatment, died on the 25th day, no lesions being discoverable on examination which could account for its death.

The second infant exhibited was born prematurely, at about six and a half months. When placed in a "couveuse" it weighed 1,100 grammes, and some time afterwards 1,000 grammes.

The result, then, M. Tarnier thinks, of the "couveuse" and "gavage" in combination may be to make the periods of legal and of practical viability coincide much more closely than they have hitherto done. He feels sure that by them he has already succeeded in saving the lives of some infants born towards the very commencement of the sixth month.

M. Tarnier, replying after a brief discussion upon his communication, added that an additional proof of the value of the "couveuse" might be seen in its effects upon sclerema neonatorum—a very dangerous affection, which not long since had been thought to be almost of necessity fatal. Depaul stated that 16 out of 20 infants attacked by this disease died. Thanks to the "couveuse," however, such a mortality from sclerema need no longer be dreaded, provided the attacked infants were at once put into it.

In the second paper quoted, Dr. Eröss gives the results of thermometric observations, made in the wards of the obstetric clinic connected with the Budapest University, upon the temperatures of fifty premature children, none of which were artificially warmed. The temperatures of these infants were first taken immediately after the first bath—*i.e.*, about half an hour after delivery, and afterwards three times daily, in the morning, mid-day, and evening—for the eight days following birth. In all 1,150 observations were thus made. The children lay with their mothers; they were usually weighed twice, at the end of the fourth and eighth days, sometimes also immediately before and after meals, with a

view to observing the amount of food taken. The fifty infants are divided into three groups, as follows:—

Group I.—To this group belong 19 infants, in whom either no disease manifested itself, or, if so, of so trivial a character as to have no appreciable influence on the temperature. In these infants a noticeable depression of the temperature existed shortly after birth, which, however, quickly gave place to the temperature usually found in the case of full-time healthy children. Another temporary fall, corresponding to one met with in healthy children, occurred usually between the third and fifth days. The thermometric observations are sufficient to prove that a considerable percentage of premature infants can of themselves produce a sufficient supply of heat, and that, suitably swaddled, they are sufficiently able to balance its loss and production, and so keep the temperature within the same limits as are met with among healthy and full-time children; and though the nutritive activity, judged by weights taken immediately before and after suckling, cannot be considered as altogether favourable, it is at least sufficiently so to guard against extreme or sudden falls of the temperature. The average weight of these 19 children was 2,400 grammes at birth, and the average loss of weight 6 grammes during the first eight days. Artificial heat is not, therefore, indicated for these infants.

Group II.—In this group are placed 18 infants who, as a result of some more or less distinct disease, had febrile temperatures. Their average body-weight immediately after birth was 2,410 grammes. The causes of fever consisted of dyspepsia, diarrhoea, or septic infection. According to the kind and intensity of the disease the temperatures continued febrile for a greater or less length of time, but they never fell so low during the apyretic period as to indicate the necessity for artificial warming.

Group III.—In this group are classed 13 infants who almost constantly showed subnormal temperatures, any rise to the normal being altogether transitory. The average weight of these infants was 2,158 grammes at birth. Two died on the third and one on the fifth day. In the entire group nutritive activity was very defective, and correspondingly there was an excessive loss of weight (107 grammes on an average) during the eight days for which they were observed. In the case of such infants—*i.e.*, in one-fourth of the entire number subjected to examination, artificial warmth is plainly called for.

The question, then, arises—What are the indications which have

to be considered in reference to the advisability of employing some of the special apparatus (couveuses, &c.) for maintaining an artificial heat about the infant? They are—the degree of prematurity, the body-weight, the powers of nutrition, the health or disease, and the temperature of the infant. As regards the first two indications it may be affirmed, in a general way; that the less mature and the less weighty a child is, so (*cæteris paribus*) will there probably be the greater need for artificial warmth; but this rule is by no means without exceptions, some of the infants in Group I. having been less mature and less weighty than some of those included in Group III. It must be concluded that in considering the necessity for artificial heat in any individual case we cannot rely with certainty upon the weight or age of the infant.

The activity of nutrition is of much more importance. It is certainly a fact that the temperature must always largely depend upon the activity of the nutrition processes, and that the dangerous subnormal temperatures are met with among infants who are not at all, or else feebly, nourished. The difficulty is, however, to obtain anything like an accurate knowledge of this activity without repeated observations, which are almost impossible. Moreover, Dr. Eröss observed exceptional cases in which the temperature remained normal, though but very little milk was taken, and others again where, though taken in more than average quantities, the temperature was subnormal.

Some diseases—*e. g.*, sclerema neonatorum—involve a lowering of the temperature, and thus indicate artificial warming. On the other hand, most diseases result in febrile action, so that were we to accept a state of disease as indicating artificial calorification, it is likely that we should be warming infants which should more suitably be cooled.

From these considerations the conclusion is reached that the only method which can serve as a reliable indicator of the need for artificial heating is to be found in the frequent and regular use of the thermometer.

In supplying artificial heat two objects are held in view—firstly, to preserve the infant, who already produces sufficient heat, from too great a loss of heat, and so to guard against its refrigeration; and, secondly, to counteract a subnormal temperature, supplying the organism with the degree of heat corresponding to its wants in the case of infants who, in consequence of prematurity or disease, are deficient in the amount of nutrition which is required

for maintaining the normal temperature of the body. In all such cases it is unconditionally necessary that we should know the temperature, since a premature infant, merely as such, does not require artificial warmth, but then only when its temperature falls below the normal level.

The author protests against the indiscriminate use of artificial heat in the cases of all premature infants in those institutions where special apparatus are in favour, and states that in none of those with which he is acquainted is the thermometer constantly employed for ascertaining the temperatures of these infants. This instrument tells when and in what quantity heat is needed, prevents such a paradox as employing extra heat when the infant is in a febrile state, and saves needless trouble where the temperature is normal.

THE PROPER PERIOD FOR TYING THE CORD.

DR. GABR. V. ENGEL.—“Über den Zeitpunkt der Abnabelung.”—*Centralblatt für Gynaekologie*. No. 46, 14, xi., 1885.

The usual practice nowadays, undoubtedly, is to tie the cord immediately after the delivery of the child, though the result of the considerable discussion in recent years of the advisability of so doing has been to lead many back to what was the very common practice a century ago—viz., delaying to ligature it until either the placenta has been delivered itself, or at least until all funic pulsations have ceased. Among the pioneers in this partial revulsion of practice were Nägele, Braun, Stoltz, Jacquemmier, and Winkler, who advised the delay of the ligature until the funis had ceased to pulsate, the latter-named first pointing out that by such a practice the child was a gainer of a considerable quantity of blood, and was less likely to lose much of its weight during the first days of extra-uterine life.

Budin,^a in 1875, first undertook to settle the relative advantages of early and late ligature by a series of simple experimental researches. By comparing the quantity of blood which flowed from the placental end of the cord after early, with that which escaped from the same source after late, ligation of the cord, he found that the former exceeded the latter by 92 grammes (or 3 ounces) on an average. To tie the cord immediately after birth, or before its pulsations had ceased, would be, therefore, to deprive

^a Bull. Therap. 15, ii., 76.

the child of this amount of blood—a serious loss when compared with the total amount of blood in the child's body. Schücking^a next took up the consideration of the question, proceeding by way of weighing the child immediately after birth, and then again after the cessation of the funic pulsation. His observations substantially corroborated the results given by Budin, though their opinions differ as to the mechanism by which the results are attained. Budin believes that the gain of blood to the child is caused by its inspirations, which, followed by a flow of blood to the pulmonary circulation, develops a negative pressure in the vessels of the general circulatory system, this in turn entailing a suction upon the blood contained in the umbilical vein and placental vessels. Schücking, on the contrary, urged that such suction would only follow the first inspiration, and that the subsequent gain is due to the *vis à tergo* caused by uterine contractions and retraction. He asserts that the pressure in the umbilical vein is doubled, or almost so, during a contraction.

Zweifel^b advises that the cord should not be tied until after the expulsion of the placenta by Credé's method. By immediate ligature he asserts that the child loses on an average 100 grammes (3·5 oz.) of blood. Hofmeier,^c from observations on 90 cases, 50 with late and 40 with early ligature, considers the amount of loss as stated by Zweifel to be exaggerated, but found that the infants lost a smaller percentage of their weight during the first days of childbed under the former than the latter method. Porak studied the losses and gains of infants during the first ten days after ligature of the funis at various periods after delivery. His conclusions are greatly at variance with those of Budin, &c. With early ligature he found that the child had gained more by the tenth day than after any late ligature. According to him the best results are obtained by ligaturing at the close of the second minute after birth. Some loss of blood is not at all dangerous to the child, who suffers much more from an excessive than from too small a supply of blood. After late ligature he states that infants may suffer from dark vomiting, melæna, and icterus, the latter due to the dissolution of too abundant a supply of red corpuscles. These conclusions of Porak were energetically combated by Ribemont,^d and

^a Berlin. klin. Wochenschr., Nos. 1 and 2, 1877, and Centralbl. f. Gynaek., 1879, p. 97.

^b Centralbl. f. Gynaek, I. 78.

^c Zeitschr. f. Geb. u. Gynaek. Bd. IV. 1879. S. 114.

^d Archives de Tocologie. X. 1879.

are not sustained by general experience where the advantages of late ligature have been practically accepted.

The interesting questions raised not having been as yet decisively settled in the opinion of so careful an authority as Schröder, we have now a further contribution to the discussion in Engel's paper. He commences by pointing out that the placental circulation rarely ceases immediately after the child's birth. The funic pulsation continues frequently for some minutes—sometimes even for a quarter of an hour. If an umbilical artery and vein be cut across during this continuance of pulsation, it will be observed that while the contents of the former are expelled in successive jerks, those of the latter flow out in a continuous stream. Further, it can be observed that the blood ceases to flow from the artery sooner than it does from the vein. When pulsation ceases the cord rapidly becomes pale and collapsed.

It is shown that Budin's method is inferior to Schücking's for the determination of the actual amount of extra blood which passes into the child's circulation when the late ligature is adopted. Engel adopts, therefore, the latter's plan of two weighings of the infant, the first immediately after birth and the second after the cord had become completely flaccid. The second weighing is not made immediately when pulsation in the cord ceases, since Engel, agreeing in this with Kohly, found that for a short time afterwards the vein continues full and transmits a small quantity (10 grammes) of blood to the child.

Engel thus weighed 60 infants, 24 of them premature. The maximal increase in full-time infants amounted to 70 and in premature infants to 90 grammes. Pulsation, as a rule, continued longer in the latter cases.

Then arises the question—Why this increase of blood, and what are its physiological effects on the child? Opinions on the former question vary greatly, some holding that the increase depends on aspiration of the umbilical vein and placental vessels by the negative pressure developed in the general foetal circulation, and others that it is chiefly due to the expulsion of placental blood by the *vis à tergo* developed by uterine contractions.

The effect of suction can be seen by compressing the cord a short way from the umbilicus, when the umbilical vein to the foetal side of the point of compression will be seen to be emptied by the negative pressure established by the succeeding inspiration. But this temporary action cannot be regarded as the sole cause of the

transfusion, since it is established by weighings that the infant gains more or less in weight before the first inspiration occurs. Again, if the cord be compressed as above, and the umbilical vein cut across between the placenta and the compressed point, blood will flow from its placental end at first continuously and then by drops, even though all suction action is necessarily stopped at the point of compression. Again, if suction were the chief cause of the transfusion, this would be slight in the beginning and much increased later on when respiration is well established—the very reverse of what really happens.

On the other hand, uterine contractions cannot be the chief cause of the transfusion, since this is certainly most marked immediately after birth—*i.e.*, during the short time for which the uterus remains quiescent. In extreme degrees of asphyxia, when the heart acts scarcely or not at all, the funis does not pulsate, and there is no placental circulation. Ordinarily the action of the heart drives the blood towards the placenta, permits at the same time of its return by the vein, and renders possible a continued placental circulation. But though the cardiac action thus maintains a placental circulation, yet it is not the direct cause of the gain of blood by the infant. This cause is to be found in the contraction of the walls of the vessels, more especially of the arteries, which are more contractile, and in which the circulation first becomes enfeebled. The veins, remaining potent longest, thus have their contents forced forwards through the umbilical vein to the infant.

The vascular contraction seems to depend, in the first instance, upon the influence of cold; this accounting for the longer continuance of funic pulsation when the cord is kept warm.

Cardiac action and vascular contractility form two opposing forces, upon the combined effects of which depend the possibility and the quantity of the transfusion. The amount gained by late ligature varies from one-fourth to one-third of the entire mass of the infant's blood, and must therefore have important physiological results.

In opposition to Porak's view, Engel contends that even trivial losses of blood are serious in the case of new-born infants—a sensitiveness observed in surgical operations, such as circumcision. Hence we should expect to see striking differences between the subjects of early and late ligature. Experience shows that the latter have rosier skins, are quieter, have the appearance of greater maturity, commence to suck later, cry less, and sleep more.

Engel is also opposed to the views of Porak and Violet as regards the greater frequency of icterus among the subjects of late ligation, having found it in only ten per cent. of 620 cases, and quite exceptionally in an intense form. Where the more serious forms of jaundice occur, other causes than late ligation of the cord must be held accountable.

Engel professes himself unable to establish any real influence exercised by the time of ligation on the usual decrease of weight which occurs during the first days of life. But late ligation has a weighty influence on the vitality of the new-born, especially if premature. During four years' experience in his clinic, when early ligation was practised, out of 90 premature infants, 17 (18·88 per cent.) died within the first ten days. During the last four years ligation has been delayed until after the cord had ceased to pulsate, and out of 74 premature infants born during this period, 7 (9·45 per cent.) died within ten days. This striking difference—accountable in no other way—must be attributed to the effects of late ligation.

A NEW (HEGAR'S) SIGN OF PREGNANCY.

HEGAR.—*Prag. med. Wochenschrift.* No. 26. 1884.

„ *Annales de Gynécologie.* Sept., 1884.

COMPES.—*Berliner klin. Wochenschrift.* No. 38. Sept. 21, 1885.

KISPERT.—*Centralbl. f. Gynaek.* No. 50. 1885.

The difficulties which beset the diagnosis of an early pregnancy—especially in the doubtful cases in which the question is usually brought under the notice of a physician—are so well known that we are prepared to welcome any real addition to our imperfect methods of diagnosis in such cases. Such an addition Hegar professed to give us, and a few recent communications upon the subject tend to support the views he enunciated.

Hegar's sign, though published now nearly two years since, is not yet generally known, and, as it is one the permanent value of which can be determined only by repeated testing, his description of it may be here given:—"This sign consists in a peculiar softness, suppleness or pliability, and thinning of the inferior segment of the uterus—that is, of the part immediately above the insertion of the sacro-uterine ligaments. The condition is easily determined, both when the uterus is normally firm, and also when it is soft and elastic. Even in the latter case it is easy, by depressing the uterus, to distinguish the softened zone from the firmer upper part

and neck of the uterus. We are unaware of any pathological condition of the uterus which can give the same sign, even hæmato- or hydro-metria. The cause of this remarkable sign depends upon this segment of the uterus becoming most thinned during pregnancy, as well as the softest and most elastic. The result is, as can easily be established, that by practising the rectal touch, in conjunction with abdominal palpation, we can feel this zone with its peculiar characteristics between our fingers. It is evident, however, that the absence of this sign is nowise a proof of the absence of pregnancy, which may exist without producing so marked modifications" (*Ann. de Gynéc., loc. cit.*). With a view to determining the value and constancy of this sign, Compes made numerous observations in the Freiburg clinic. The result has been that he thinks very highly of its diagnostic importance.

Before making the necessary examination the rectum may be cleared by an enema of warm water, and the bladder must be emptied. The index finger is then to be passed upwards into the rectum until it reaches above the utero-sacral ligaments, the thumb of the same hand being at the same time introduced into the vagina and fixed against the portio vaginalis. The free hand, placed just above the symphysis pubis, then presses downwards and backwards through the abdominal walls towards the index finger. The uterus being thus caught between the index finger and the external hand, the former is enabled freely to explore all the parts around the inferior segment, as well also as the cervix and fundus. If there be any difficulty in making the examination complete, it may be overcome by having the vaginal cervix drawn downwards by a vulsellum. The softness and pliability of the inferior segment is due to its succulence and infiltration. The sign is a positive one of extreme value, and is observable as early as the end of the second month, and from that time forwards. Compes knows of no other circumstances under which this peculiar condition exists, except it be in some cases of retroversion, and then not nearly so markedly. His paper concludes with an account of the sign, as found in a number of cases. It was only once absent out of the cases in which it was sought for. Kispert (Madrid) confirms the observations of Compes, and adds that the sign under discussion continues to be marked for some time (14 days) after the bleeding of an abortion.

[To be concluded.]

PART IV.
MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ACADEMY OF MEDICINE IN IRELAND.

President—ROBERT M'DONNELL, M.D., F.R.S.
General Secretary—W. THOMSON, M.D.

SUB-SECTION OF STATE MEDICINE.

Chairman—A. H. JACOB, M.D., F.R.C.S.I.
Secretary—H. C. TWEEDY, M.D. Univ. Dubl., M.K.Q.C.P.

Wednesday, April 21, 1886.

DR. A. H. JACOB in the Chair.

Sanitary and Judicial Aspects of Cremation.

DR. H. C. TWEEDY read a paper on the sanitary and judicial aspects of cremation. [This communication will be found in full in the May number of the Journal, Vol. LXXXI., page 430.] Having alluded to the condition of graveyards which gave rise to the Southwood Smith Commission in 1849, he then proceeded to show that the dangers arising from the present mode of sepulture were to be traced partly to the contamination of air and water by the gases of decomposition and other putrefactive matters, and partly by the fact that the germs of several forms of zymotic disease not only retain their vitality in graves, but are capable of indefinite propagation under favouring conditions of heat and moisture, and, becoming liberated on the disturbance of graves, give rise to the several diseases of which each is the specific ferment.

The process of cremation gets rid of all these dangers, anticipating putrescence by the rapid reduction of the body to its elements, and by the total destruction of all organic germs by the high temperature necessary for the process.

A description was then given of the Gorini Crematory now in use at Woking, under the auspices of the Cremation Society of England.

Allusion was next made to certain medico-legal objections which might be raised in opposition to the practice of cremation.

The first of these is the possibility of cremation during a trance. The second, the danger that cremation may destroy traces of violence or poisoning, and thus defeat the ends of justice.

The first objection is easily disposed of. Let us hear Sir Henry Thompson, President of the Cremation Society, speak on the subject. He says:—"There is a source of very painful dread, as I have reason to know, little talked of, it is true, but keenly felt by many persons at one time or another, the horror of which to some is inexpressible. It is the dread of premature burial; the fear lest some deep trance should be mistaken for death, and that the awakening should take place too late. Happily, such occurrences must be exceedingly rare, especially in this country, where the interval between death and burial is considerable; the fear is almost a groundless one. Still, the conviction that such a fate is possible, which cannot be altogether denied, will always be a source of severe trial to some. With cremation no such catastrophe could ever occur, and the completeness of a properly conducted process would render death instantaneous and painless if by any unhappy chance an individual so circumstanced were submitted to it. But the guarantee against this danger would be doubled, since inspection of the entire body must precede the act of cremation, no such inspection being possible under the present system."

Several answers may be given to the present objection.

1st. A medical examination of the body previous to cremation would in the case of a large number of poisons—the minerals and mineral acids, at least—raise a strong suspicion that death had been compassed by foul means. Death from injury or from concealed wounds would in like manner be discovered.

2nd. As far as mineral poisons are concerned, direct experiments, instituted by M. Cadet, and repeated by MM. Dourvault and Wurst, have proved that the salts of arsenic and all other metallic poisons except mercury, which is completely volatilised, can be detected in the ashes after cremation.

3rd. In cases in which there was the least doubt as to the cause of death it would be possible to remove the stomach and a portion of the viscera, and to preserve them for future examination should the necessity for such examination arise.

A recent decision of Mr. Justice Stephen declares that the cremation of a dead body, if effected without nuisance to others, is a legal proceeding; but further protection to the public is requisite, to meet which it has been proposed—

(a). "That places used as crematoria should be licensed, and that it should be a crime to dispose of a body by burning in any place not so licensed.

(β). "That it should be unlawful to cremate any body without a

special official permit, to be issued only on receipt of a medical certificate (founded either on personal attendance during life or on a *post-mortem* examination) that death undoubtedly resulted from natural causes, that the cause was so-and-so, and that there was no reason whatever to believe that death was caused or accelerated by foul play."

Were some enactment constructed on similar lines to become law, with the addition, perhaps, of a clause recommending (as suggested by Sir Henry Thompson in 1873) the appointment in every district of a properly-qualified medical inspector, with duties corresponding to the French "*Médecin-Vérificateur des décès*"—an official without whose written permission no burial can take place in Paris—one cannot but feel that we might then honestly, and without further hesitation, cast in our lot with the advocates of cremation, certain that in doing so we were outraging no law, human or divine, animated with the confidence that we were benefiting our fellow-man by removing one most prolific source of disease and death, and at the same time fully satisfied that we were not opposing the course of nature, but merely anticipating by a little, and for the good of our kind, the time she herself takes in carrying out her own eternal and immutable law of "Dust to dust, and ashes to ashes."

THE REGISTRAR-GENERAL FOR IRELAND (DR. GRIMSHAW) said the question of cremation was one of great and growing importance. Its sanitary aspect admitted of no discussion, and its sentimental aspect scarcely concerned the medical profession; but its medico-legal aspect required careful consideration in the interests of the public, having regard to the risk of cremation being made use of as a readier method than others to get rid of suspicious cases. Thus, besides cases of poisoning and violence, there were cases of maltreatment, mismanagement, and starvation to death likely to escape by cremation, while there were no safeguards suggested that were not already adopted in interment. A cremation certificate added no security whatever; for the medical man gave a certificate of the ostensible cause of death to the best of his belief, and yet the patient might have died of something else indicating murder. Then the body could be exhumed from interment, but a body burnt could not be recovered, and nothing could be said in favour of cremation in that respect. It was said the French system of holding an inquest in every case might be introduced; but there was no likelihood of such a system being adopted in the present state of public opinion. The chances of discovering murder where the body was cremated were, therefore, a little less than where the body was buried. On the other hand, the fact of the body remaining some time in the grave confused materially the evidence of the cause of death. For instance, in one case a body having been exhumed was found to contain a considerable quantity of arsenic; but it was also found that all the bodies in the same burial-ground were full of

arsenic. Hence it happened sometimes that certain products of decomposition led to the suspicion that alkaloids or some obscure forms of poison had been made use of in destroying the life of the individual. After all, the only safeguard was the adoption of the French system—namely, that of inspecting the body and inquiring into the cause of death in every case.

DR. ATTHILL had long been in favour of cremation, and regretted that the good old system of ancient times was not still carried out. The son of a clergyman in a remote country parish, in his early days he attended every funeral, and he felt the greatest disgust at the sight of the half-rotted bone, with the hair still attached to the skulls. As soon as he became aware of the custom of the ancients, he regretted that cremation had ceased to exist, and for the last ten or fifteen years he advocated cremation on sanitary grounds. It was revolting to follow mentally the process of decomposition in the bodies of loved ones, whereas upon cremation the remains could be deposited in an appropriate urn, and kept, if necessary, in personal custody.

DR. HENRY KENNEDY said the question of expense was worthy of consideration in connection with the subject, as the cremation of paupers would be a considerable tax on the country. He did not believe in the great danger to health alleged to arise from interment, Darwin's work on Earthworms demonstrating that there was a constant change going on as a law of nature—food passing through the bodies of animals and turning into manure, to be reproduced as food again. Besides, there was no evidence that graveyards were a source of sickness, and therefore it might fairly be questioned that the mischief alleged to arise from such contamination was exaggerated.

THE REGISTRAR-GENERAL (DR. GRIMSHAW) said paupers could be cremated in batches as they were interred at present.

DR. JOHN WILLIAM MOORE regarded the argument from sentiment as altogether in favour of cremation. In the Bible—so far as he knew—there was nothing from beginning to end opposed to cremation. Dr. Henry Kennedy had not given sanitary or preventive medicine sufficient credit, nor could he agree with him as to the comparative innocuousness of the round of nature which he had described. Within recent years outbreaks of disease had occurred from disturbing graveyards, notably in London, where also a recrudescence of the great plague had occurred year after year from this same cause. Surely Dr. Kennedy did not mean to assert that people were recklessly to drink water contaminated with typhoid fever? The expense of cremation would be much less than that of burial.

DR. ATTHILL—The actual expense would be only a few shillings, the cost of the fuel.

THE CHAIRMAN (DR. JACOB) held with the Registrar-General that the

sanitary aspect of the question was not open to dispute. Indeed, any system by which the results of decomposition could be got rid of would be a boon. There was no doubt as to contamination being transmitted from interment. An authenticated case had been recently reported from France, where a diseased cow was buried, and the disease was transmitted to the vegetable aliment, and thence to the sheep that browsed upon it, and from the sheep to human beings. Diseases had been disseminated from the existing system of burial. Dr. Tweedy's paper had satisfied him that the medico-legal difficulties in the way of cremation had been thoroughly met. It was only in one of 20,000 cases that judicial considerations intervened, and a suspicion arose to justify exhumation, and therefore, as regards cremation, they had to deal but with that one case in which the law found it necessary to protect the public against foul play. The French system supplied the means of protection, and it might be supplemented by preserving the body in a cave or frigidarium for a week, or even a couple of months, if necessary, prior to cremation. It was obvious that £6 was a fancy price for cremation, and that when it was adopted on a large scale 6s. would be nearer the mark. Sentiment would be broken down only by educating the public.'

DR. H. C. TWEEDY replied.—As to the sentimental point, he agreed with the Registrar-General that this was not the place to discuss it at all. The medico-legal point was the only one upon which real objection could be urged against cremation, and there was no doubt that the evidence of one class of injuries would be destroyed by cremation, which would remain with interment—namely, that of fractures. Thus, an injury to the skull would be discovered upon exhumation after many years, whereas if reduced to powder discovery was out of the question. But by the appointment of a public officer to hold a mitigated form of coroner's inquest in every case of death, the danger either of premature burial, or the burial of a body without discovering what the particular person died of, would be removed, provided the officer was a reliable man and had no interest in the matter. In addition to the ordinary certificates, there ought to be a third from a perfectly independent man. He had not discussed the question of expense, as not being within the domain of State Medicine, but he estimated the cost at a little over 5s., when cremation was adopted on a large scale; for instance, the Secretary of the Cremation Society had reduced 124 lbs. of flesh and bones, forming the hinder part of a horse, to 4 lbs. in an hour, at a cost of 5s. 8d.

The Climate of Dublin.

DR. J. W. MOORE read a paper on the Climate of Dublin, based on twenty years' meteorological observations. [It will be found at p. 18.]

DR. H. C. TWEEDY inquired the cause of the prevalence of fogs in the channel, and especially round Dublin Bay.

DR. ATTHILL noticed the remarkable difference in rainfall at Howth as compared with Dublin, only some eight miles distant. At times the weather was parchingly dry at Howth, whilst in Dublin the streets were well watered. When the wind was S.W. the atmosphere was saturated with moisture, and yet hardly any rain fell at Howth, unless there was a considerable raincloud. The rain fell on the mountains south of Dublin. It was different when the wind came from N.E. or due E.

DR. HENRY KENNEDY.—And there is also a difference between the rainfall in Dublin and Belfast, it being much greater in Belfast.

THE CHAIRMAN (DR. JACOB) concluded from Dr. John William Moore's observations that the rainfall was much better distributed in this country than elsewhere, and there were also less fluctuations of temperature. He had observed, as a yachtsman, the effect of winds upon the rainfall in Dublin Bay; it was a matter of common experience to see the rain falling the entire day on shore, whilst the bay was quite free from rain—an effect he attributed to the easterly winds, which were more prevalent at sea. When the wind drew into the E. he anticipated that it would bring down the fog, and he ran for the harbour. The contour of the land in the neighbourhood of Dublin caused a rapid precipitation of the water from the atmosphere, and the rainfall was equable, and led to the agreeable temperateness of the climate. However, there were sometimes remarkable variations of temperature in a single day, as seen by the tables.

DR. JOHN WILLIAM MOORE, in reply, said the prime factor in the formation of fogs was calm weather. No such thing was known as a fog with a gale, unless in cloudland, when the clouds were flying over the hills. Fogs were produced in different ways, according to the season. The spring fogs, which accompanied calm weather or light easterly winds, were due to the cold water condensing the vapour in the warmer air; while the summer and autumn fogs were caused in the opposite way—from the warm water with a chill atmosphere above it. The winter fogs in the city were principally smoke-fogs, miniature reproductions of the celebrated London fogs. In Rostrevor the rainfall was considerable, owing to the mountains to the N. and N.E. Newcastle was much drier, and so was Downpatrick; but in Belfast there was a rainfall of about 36 inches. There being considerable hills N. and N.W. of Belfast, heavy rains fell there with S. and S.E. winds. The summer showers in Dublin were planetary showers, due to the position of the city at the bottom of the valley of the Liffey—like the thunderstorms in London, due to its position in the bottom of the valley of the Thames. These summer showers did not reach Howth, because they died out immediately on passing from the land over the sea. Why? Because these showers depended on evaporation. The heavy rains at Howth were due to the upcast air at the north side of the hill. As the wind passed up from the hill it went to a great elevation, and met with a gradually decreasing temperature.

TRANSACTIONS OF THE ULSTER MEDICAL SOCIETY.

SESSION 1885-86.

President—JOHN FAGAN, F.R.C.S.I.

Hon. Secretary—JAMES A. LINDSAY, M.D., R.U.I.

Wednesday, June 2, 1886.

Sketch of the Ulster Medical Society and its Presidents. By ROBERT
ESLER, M.D., Belfast.

IN a paper which I read before the Ulster Medical Society in January, 1885, I gave some account of medical matters in Belfast during a period of two centuries.^a That paper concluded with a hope that, on a future occasion, I should be enabled to ask this Society to accept the custody of the portraits of its former presidents. It is with that pleasing object we have now met.

The Ulster Medical Society was constituted on May 4th, 1862, by the amalgamation of the Belfast Medical Society—a Society which had been in existence from 1806—with the Clinical and Pathological Society, which was originated in 1853 by Dr. Malcolm. Another Society, called the Ulster Medical Protective Association, with Dr. W. M'Gee as President, and Dr. Samuel Browne as Secretary, was in active operation up to that time. It is also merged into the new Society. For our present purpose it will be necessary to ante-date the union by a few years, so as to include some of the presidents of the old association who had been instrumental in the formation of the Ulster Medical Society.

The first portrait to be uncovered is that of Dr. Thomas Reade. He was President of the Clinical and Pathological Society. Dr. Reade was born in Dublin in 1794, and was the son of a merchant of that city. One of his brothers was a medical man, and for many years one of the surgeons to Mercer's Hospital. Another brother was an officer in the army. Dr. Reade was a student of Trinity College, Dublin. He took his B.A. degree in the University of Dublin in 1818, and his M.B. the same year; M.R.C.S.E., 1820; and M.R.C.S.I., 1825. He commenced practice in Letterkenny in 1822, afterwards removed to Londonderry, thence to Coleraine in 1831, and finally to Belfast in 1840, where he made a large circle of friends. He published, among other papers, a valuable treatise on the Brain. In person he was tall, and had a striking

^a See Dublin Journal of Medical Science, Vol. LXXIX., page 158, February, 1885.

appearance. In manner he was rather pompous, but bore the character of being an accomplished physician, surgeon, and gentleman. He died May 28th, 1873.

The next portrait is that of Dr. Pirrie. John M. Pirrie, M.D., was son of William Pirrie, of Conlig, Co. Down. He was born in November, 1824. At the close of his undergraduate course, in 1845, he took his degree in Arts in Trinity College, Dublin, and also his M.B. the same year. The M.D. degree he obtained in 1848, having in the meantime continued his studies in Paris and at Heidelberg. He at once commenced the practice of his profession in Belfast, where he soon attained a good position. He contributed many valuable papers to the medical journals. For 26 years he was on the medical staff of the General Hospital, and also one of the surgeons to the Lying-in Hospital. On several occasions he acted as *locum tenens* for the Professor of Midwifery in Queen's College. He was for 25 years a member of the Belfast Harbour Board. He was a prominent member of the Masonic body, and in politics a leading Liberal. He enjoyed a large midwifery and general practice, and was in the very zenith of his prosperity when cut off by death in July, 1873. He was formerly President of the old Medical Society, and was a man of uncommon ability, and exceedingly popular.

The third portrait is that of Dr. Samuel Browne, L.K.Q.C.P., R.N., & J.P. Dr. Browne had been President of the Belfast Medical Society, and also of the Clinical and Pathological Society. He has been a man of mark in Belfast; was the founder of the Ophthalmic Hospital, and introduced ophthalmology as a special branch of surgery. Besides being surgeon to the General Hospital, Dr. Browne has been a general practitioner, Town Councillor, Mayor of Belfast, Justice of the Peace, and Consulting Sanitary Officer. Dr. Browne's portrait is that of a model surgeon, a dignified mayor, a respected citizen, and a perfect gentleman.

The portraits which we may expect to be added of the Presidents of the old Society include those of Dr. Henry MacCormac, Dr. T. H. Purdon, and Professor Gordon.

The first President of the Ulster Medical Society was Professor Ferguson; the Vice-Presidents were Drs. Whitaker and David Moore, and the Treasurer Dr. J. W. T. Smith.

The formation of the Society was mainly due to Drs. Halliday, Murney, D. Moore, and W. MacCormac. The minutes show that the new Society was in a vigorous condition from the beginning. When the reading-room and library were put in order, the question of the propriety of keeping the reading-room open on Sunday arose. The following resolution was agreed to:—"That, inasmuch as the Society consider it inexpedient and unnecessary to make any rule on the subject, each

member is allowed the right and afforded the means of acting in the matter according to his own judgment." Each member had a key admitting him to the library. Even at this date the subject of sacramental wine was before the Society, and a sample submitted was declared by one of the best chemists in the Society to contain ten per cent. of alcohol.

John Creary Ferguson, M.D., was born in Tandragee, August 22nd, 1802. Having finished his preliminary education, he entered Trinity College, Dublin, in 1818, where he took first place and obtained a gold medal. He studied in Edinburgh in 1824, in Paris in 1825, and graduated M.B. of the University of Dublin in 1827. He became a Licentiate of the King and Queen's College of Physicians in 1827; was appointed King's Professor of Practice of Medicine, 1845–1850; Censor, 1832 and 1845. Was also M.A. of Dublin University. He obtained the Professorship of Medicine in Queen's College, Belfast, in 1850; was on the medical staff of the General Hospital, and an Examiner in Queen's University. During the cholera epidemic of 1832 he was sent to Ennis by the Government, and took an active part subsequently in the treatment of famine fever in Dublin. He was a member of the Trinity Brothers of St. Patrick, Dublin, and of the Ulster Club, Belfast. Dr. Ferguson was a man of scholarly attainments, and had great literary and musical ability. His public lectures and his private friendship were both keenly appreciated. He was the son of a medical man, his father having occupied a high position in the profession in Dublin. He died June 24th, 1865. His professional brethren erected a monument to his memory.

James Patterson, M.D., was President in 1863 with the same treasurer and secretaries. The business of the year was chiefly of a routine character. A committee was formed to give practical effect to some changes introduced into the new British Pharmacopœia. We have no portrait of Dr. Patterson, but the following resolution, passed on the occasion of his death by this Society, is of interest:—"That we record the respect in which we hold the memory of one of the most valuable members of the Society. We always found him an active, intelligent, and kindly counsellor and co-operator, whilst by the general community he was recognised as a useful citizen, and a man of stainless integrity." Dr. Patterson was son of the Presbyterian minister of Magherally, Co. Down.

Robert Stewart, M.D., was President for 1864. Dr. Stewart was born at Swords, Co. Dublin, in 1803. His father was rector of the parish. He was descended from a Scotch family who settled in the Co. Donegal early in the 17th century, and claims to trace connection through Alexander, Lord High Sheriff of Scotland, with the Royal line of Stewart. His education was obtained at the Park-street School of Medicine, Richmond Hospital, and Royal College of Surgeons in Ireland. He graduated M.D. in Glasgow, 1829, and engaged in general practice

in Dublin. He was appointed superintendent of the District Asylum for the Insane, Belfast, in 1835. This appointment he held for nearly forty years. He soon made his mark by a new and bold method of dealing with the insane. Up to that time restraint was the recognised method of dealing with asylum patients. Dr. Stewart was one of the first to advocate the non-restraint system, and he lived to see the whole method of treatment changed. In consequence of the success attendant on the new method, the Government made it a rule that medical men only should be appointed as superintendents of district asylums. Dr. Stewart also advocated the moral treatment of insanity by the introduction of music and amusements among the patients. While chiefly occupied with the duties of his appointment he did not neglect the study of general medical matters, and gave much of his spare time to the meetings of the Medical, the Clinical, and Pathological, and the Ulster Medical Societies, having acted in the capacity of President to each. He was for thirty years hon. secretary to the Belfast Branch of the Royal Medical Benevolent Fund Society of Ireland. It was while engaged in collecting funds for the latter society that he caught a cold which resulted in his death after a few days' illness. He was brother of Dr. Stewart, the founder of the Stewart Institute, Dublin. He died in March, 1875.

The presidential chair in 1865 was filled by the surgeon artist of the profession in Belfast, and the characteristic signature "James Moore, M.D.," is regularly attached to the minutes of that session. Dr. John Moore was secretary, and Dr. Cuming treasurer. This was literally a surgical year. Dr. James Moore was the son of Dr. David Moore, R.N., his mother being the daughter of Signor Antonio Medin, Governor of Curzula. He pursued his medical studies in Edinburgh, where he took his degree in 1842. In the same year he became a member of the Royal College of Surgeons, Edinburgh, after which he attended hospital practice in Dublin and Paris. He commenced practice in Belfast, where, for forty years, he held a distinguished place as a surgeon. He was on the surgical staff of the General Hospital, and consultant in several of the special hospitals of the town. He also held an appointment in the District Lunatic Asylum, was Medical Inspector of Emigration and of Quarantine to the Port of Belfast. As a surgeon Dr. Moore held a distinguished place by virtue of his rare diagnostic skill, his delicacy of touch, and his intrepidity as an operator. Dr. Moore was a man of double identity. In addition to being a surgeon he took good rank as an artist, and added to his other qualifications that of Hon. Mem. R.H.A. He was also an Associate of the Scotch Academy. Landscape painting was the branch which he ardently followed, and in which he excelled. Even in his student days his artistic taste was manifested, and he was selected by Professor Syme, of Edinburgh, to illustrate his well-known work on Surgery. It was his habit all through life to illustrate his clinical lectures

by sketches of deformities and tumours, and many of us can bear testimony to his truthfulness to the original, even when delineating objects which he may have seen but once. In archæology and geology he was also a proficient, and had accumulated a large collection of specimens. He was a member of the Werner Society of Antiquarians, and in this relation formed friendships with men of genial minds and similar tastes. Possessed of a kindly spirit, Dr. Moore found a suitable outlet for his sympathy with all living creatures in his active membership of the Society for the Prevention of Cruelty to Animals. Being an artist he took a great interest in the drama, and was the intimate friend of nearly all the leading actors for a period of two generations. Dr. Moore was admired by all classes and conditions of men, but by none more than by the leaders of his own profession. Sir Charles Bell bequeathed him his case of instruments, Professor Goodsir paid him a similar compliment, as did also Dr. Thomas Reade, his fellow-townsmen. Dr. Moore was a genius, and like most men of genius had certain peculiarities, but we, who were his pupils, would remember those only which leaned to the side of virtue.

Following the surgeon artist came the physician poet—John S. Drennan, M.D.—as President. This year—1865—was characterised by a large increase of membership. Medical matters received more attention than usual. Reference is made in the minutes to the property owned by the Society—library, models, furniture, &c. The following entry is so important that I transcribe it in full:—"Drs. MacCormac, Pirrie, and Murney, joint trustees with Mr. Girdwood for the erection of the new wing to the hospital—the donation of Mr. Charters—were present, and concurred in stating that both rooms in the basement of the wing had been specially prepared, and were intended for the Society's use; all the expenses of preparation having been defrayed out of the supplementary grant of £500 from Mr. Charters." We have not been furnished with Dr. Drennan's portrait, but I am authorised to present a copy of his works to the library.

James Seaton Reid, M.D., was elected President in 1867. He had been a member of the Medical Society from 1844, and was President of the Clinical and Pathological Society in 1859. Dr. Reid's portrait represents one of the most dignified and one of the kindest of men. No man is more respected for his worth or more trusted for his skill than Dr. Reid.

James Cuming, M.D., was elected President on May 1st, 1868, Dr. MacCormac, treasurer; with Drs. John Moore and Hill, secretaries. The Society at this time had four Vice-Presidents—two from the county and two from the town members. The Channel Fleet being on a visit to Belfast Lough the medical officers of the Fleet were entertained at dinner by the Society on Sept. 6th. Dr. Cuming had presided over both of

the old Societies, and again over this in 1881. Dr. Cuming has been one of the leaders in medical matters for a quarter of a century in Belfast. He is a wise counsellor, an earnest friend, and a trusted consultant.

J. W. T. Smith, M.D., succeeded Dr. Cuming as President. The vice-presidents were Dr. John Moore and Dr. Murney; Dr. William MacCormac, treasurer; with Drs. Hill and Porter, secretaries. During the session a very large amount of professional work was brought before the Society. On March 8th, 1870, a special meeting was held to consider the Contagious Diseases Act of 1866. The result of the conference was in favour of the continuance of the Act, as it had tended to increase morality and diminish vice. In the competition for success in professional life Dr. Smith has out-distanced most of his competitors, and enjoys one of the largest practices in Ulster.

At the annual meeting on May 3rd, 1870, Dr. (now Sir William) MacCormac was elected President, Dr. Pirrie treasurer, and Dr. J. W. Browne, secretary. On 23rd May a special meeting was held to consider—1st. The New Medical Act Amendment Bill; 2nd. The representation on the Medical Council; 3rd. The Irish Pharmacy Bill. Resolutions on the various questions were forwarded to the House of Commons. On 25th March, 1871, Dr. MacCormac resigned his Presidency on his removal to London.

Sir William MacCormac has a world-wide fame in surgery. During the Franco-Prussian war he gained a reputation for skill and courage, and has since been recognised as an authority on military surgery. He was among the first to join the ambulance corps formed by the late Marion Sims.

Henry Murney, M.D., President (1871). The work of this Session was very full and complete, as recorded by Dr. Hill. On August 14th a special meeting was held to consider the propriety of asking the British Medical Association to hold its annual meeting in Belfast in 1873. The proposal was negatived by a majority of one. There is no portrait of Dr. Murney.

Dr. Henry Martyn Johnston (1872) President; Dr. John Moore, secretary; Mr. Fagan, treasurer. The meetings were held this year on Saturdays at 3 o'clock in the General Hospital. Dr. Johnston was born at Banbridge in January, 1827. His father was the Rev. John Johnston, D.D., who for some fifty years was minister of the Presbyterian Church, Tullylish. His brother is the Rev. Wm. Johnston, D.D., of Belfast. He was educated in Belfast and Dublin. In the latter city he was resident pupil in the Richmond Hospital. After taking his medical qualification he spent some time in London, and subsequently settled in Belfast, where he was elected Dispensary Medical Officer. He afterwards became Visiting Surgeon to the Belfast Union Infirmary. Dr. Johnston's devotion to his profession, his genial disposition, and generous

sympathy with human suffering secured him a large and remunerative practice. He was most popular with all classes, and was an especial favourite with his professional brethren. He ever took an active interest in the success of his juniors in the profession. After some twenty years practice the wear and tear of professional life began to tell on a not very robust frame; at length he had to resign his public appointments, and go abroad, to seek that rest which was denied him at home. His recovery was partial and temporary; for some years he struggled against a serious chest affection, but died at the early age of fifty-one, on the 3rd of March, 1878. He left the reversion of his property for the benefit of the poor, suffering from cancer and consumption, in the district where he had chiefly practised, and where his name is still held in affectionate remembrance.

John Moore, M.D., was President for 1873. During this year the deaths of four old members were reported—viz., Dr. Thomas Reade, Dr. Pirrie, Dr. Murray, and Dr. Wm. M'Gee, J.P. In August, 1874, the British Association met in Belfast, and on that occasion the medical members were invited to breakfast by the Society. The President, Dr. Moore, occupied the chair. The following toasts were proposed and responded to:—"The British Association," responded to by Sir Wm. Wilde, Dr. Michael Foster, and Dr. Carpenter. "The Queen's University," by Professor Cleland, and Professor Redfern. "Our Foreign Visitors," by Professor Gluge. "The Ulster Medical Society," proposed by Dr. Carpenter, and responded to by the President. Dr. Moore has filled almost every post in connection with this Society, and always did so with energy and ability.

Dr. C. D. Purdon was chosen President for 1874; Dr. J. J. Charles, secretary; Dr. Fagan, treasurer. The subject of the President's Address was—"The Past Medical Charities of Belfast, compared with the Present." During the course of the session the President read a paper upon "The Factory Reports on the Last Two Epidemics of Small-pox." A large number of papers were read during the session on medical subjects.

Charles de la Cherois Purdon, M.B., was born in Belfast in 1819. He was the son of Dr. Henry Purdon, Staff Surgeon, and brother to Dr. T. H. Purdon. Three of his sons are in the profession, so that the Purdons are literally a medical family. Dr. Purdon received his education at the Royal Academical Institution, Belfast, and at Trinity College, Dublin, where he took his degrees of M.A. and M.B. in 1840, having obtained the diploma of the Irish College of Surgeons in the previous year. He commenced the practice of his profession in Belfast, where he made a large circle of friends. He employed much of his leisure time in the study of archæology, and was at all times of a studious and retiring habit, yet no member of the profession was more entertaining or more

popular when he appeared among his brethren. He had a pleasant polished manner, and from his *répertoire* of anecdote he was always able to add fresh interest to any discussion. Dr. Purdon was an earnest churchman, and a man of unblemished character and spotless life. He did much for the amelioration of the condition of the working classes, and took an active interest in the Belfast Charitable Society, and the Deaf and Dumb Institution. He appeared occasionally as a public lecturer, and at the very time of his death he had an engagement to lecture to the Young Men's Christian Association on one of his favourite subjects—"The Huguenots." By his pen he also contributed to the literature of the profession. He was certifying Factory Surgeon for Belfast. He died 8th January, 1882, aged sixty-three years.

Thomas Kennedy Wheeler, M.D., President, 1875. The papers read during this session were very varied, and were of a thoroughly practical character. Dr. Wheeler is one of the most popular and most respected of all the ex-presidents.

Richard Ross, M.D., was elected President on November 2nd, 1876; Dr. Whitla, secretary. The subject of salicylic acid in the treatment of rheumatic fever gave rise to an interesting discussion. The minutes for the year are very full and explicit. Dr. Ross's portrait is that of a most kind, agreeable, and popular man. He deservedly enjoys the esteem and affection of a large circle of patients and friends.

George F. Wales, M.D., was made President on November 7th, 1877. The session opened with a discussion on "Alcohol—is its moderate use beneficial or injurious?" The subject proved to be of nearly as much interest to the members as it is of profit to the vendors, and only on the fourth night of discussion was the President able to put the finding in the form of four resolutions to the meeting. To put it briefly, the conclusion was:—"That in health alcoholic stimulants are unnecessary; and that they are generally hurtful." A motion was submitted by Professor Dill on the death of Dr. William Stokes, of Dublin, hon. member of the Society. He was characterised as "a perfect gentleman, an accomplished scholar, a great teacher, and an able physician." Dr. Esler read a paper "On the Disposal of the Dead," out of which an animated discussion arose on the practice of wearing funeral emblems. It was resolved:—"That believing the custom of wearing shoulder-scarfs at funerals by medical men to be objectionable, we resolve, as far as we can, to discountenance the practice."

Dignity, ability, and merited success are characteristics of Dr. Wales. During his year of office the work of the Society received a fresh impetus.

Alexander Harkin, M.D., J.P., 1878, President; Dr. Esler, treasurer. This session was inaugurated by an able address from the president on "The Milk-Feeding of Infants," and was followed by a practical dis-

cussion on the same subject. The injection of hot water in *post-partum* hæmorrhage was first brought before the Society. The funds of the Society were this year greatly augmented by special subscriptions for library purposes. Dr. Harkin takes rank as one of the most attractive and witty *raconteurs* who have passed the chair of this Society.

Robert Foster Dill, M.D., was elected President for 1879. The rules of the Society, table of fees, and code of medical ethics were revised and printed, many valuable papers were read, and the work of the session was altogether of a very thorough character. The year was characterised by more social friendship and hospitality than usual.

Dr. Dill possesses many distinctive appellations. He is at once professor, coroner, gynæcologist, and consultant. He is an ardent friend, an honest enemy, an able debater, and a popular President.

J. Walton Browne, M.D. (1880). The Society's affairs being in an easy and prosperous condition, nearly the whole time of the members was occupied with purely professional work. Professor Gordon read a valuable paper on fractures of the femur. A lengthened discussion took place on the subject of "Abuses of the Medical Charities of Belfast." Resolutions were drawn up and sent to the various hospitals.

Dr. Browne's portrait is that of an aspiring and successful teacher and operator in the surgical branch of the Medical School.

Professor Cuming (1881). His opening address reviewed the changes in practice during a period of thirty years. The session was characterised by smoothness and good work.

William Alex. M'Keown, M.D. (1882). Dr. Dempsey, Librarian, with the same secretary and treasurer. Many valuable papers were read, and patients and appliances frequently exhibited. Dr. M'Keown's portrait is that of a pure specialist, who has proved that success is to be attained by doing honest and original work.

Professor Dill (1883). Dr. M'Kenzie, secretary. The energy of former years was thrown into the work of the Society by the President, and the minutes of Dr. M'Kenzie are very full and satisfactory. The medical event of the year was the meeting of the British Medical Association in Belfast, when about 600 members from various countries were present. Professor Cuming was President, Drs. Moore, Dempsey, and Byers, were the local Secretaries, and Dr. Whitla, Treasurer. The meeting extended over five days, from July 29th till August 2nd. On the Saturday excursions were made to the Giants' Causeway, Garron Tower, and Newcastle. The writer having prepared a guide book specially for the occasion, has much pleasure in presenting a copy to your librarian as a memento of the event.

John Fagan, F.R.C.S.I., was elected President for 1884. The place of meeting was changed to the Museum, College-square, North, and the meetings partook of a more social character than hitherto. For the present

session, 1885-6, Mr. Fagan was again chosen President; Dr. Lindsay, secretary. The records of these years will be published in due course, so of them I need not say anything.

Your own portrait, Mr. President, although last, is not the least important. It is that of a President who for two consecutive years has watched over the deliberations of this Society with great dignity, ability, and acceptance.

And now, sir, it devolves upon me, as the temporary custodian of these portraits, to ask you, on behalf of the various donors, to accept the safe-keeping of them for the Society. I hope that each succeeding year may see an addition to their number, and I can only wish that the historian of the future may have as satisfactory a record of human goodness, professional skill, and good public reputation to submit as it has been my pleasing duty to furnish on this interesting occasion.

SOME POINTS IN THE PRACTICE OF ARTIFICIAL RESPIRATION IN CASES OF STILLBIRTH AND OF APPARENT DEATH AFTER TRACHEOTOMY.

MR. FRANCIS HENRY CHAMPNEYS, in an article in the April number of *The American Journal of the Medical Sciences*, in which this whole subject is carefully considered, thus sums up the treatment:—Never hurry; it is not a question of seconds, and success depends upon a fine exercise of the judgment. Make a good diagnosis, first as to life or death, secondly as to the stage of asphyxia (if life is not extinct). If the child is macerated, it is obviously dead and past hope. If the heart beats, ever so slowly and feebly, it is not dead. If the heart is not beating, death is not certain, unless it can be proved to be inactive for some time. If the child is livid and not flabby, it will probably come round, wipe out its mouth and pharynx, and rub it with a soft cloth down the spine, press gently on the cardiac region. If this produces no effect, inflate the lungs by the mouth, and then by Silvester's method. If air enters the lungs, well and good; if not, try Schultze's method, or insert a catheter. On the first sign of muscular action, plunge the child into cold water, or into alternate hot and cold baths. Vary the treatment between occasional inflation of the lungs, artificial respiration, pressure over the cardiac region, baths, irritation down the spine according to the judgment; remembering what may be expected of each method, and that no one will suffice for all cases. Watch for signs of resuscitation—namely, improvement in the colour, in movements, in cardiac pulsations, as described above. Never be content until the child breathes regularly, and appears to be continually improving.

SANITARY AND METEOROLOGICAL NOTES.

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VITAL STATISTICS

For four Weeks ending Saturday, May 22, 1886.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

TOWNS	Weeks ending				TOWNS	Weeks ending			
	May 1.	May 8.	May 15.	May 22.		May 1.	May 8.	May 15.	May 22.
Armagh -	15·5	15·5	25·8	25·8	Limerick -	44·5	20·2	24·3	27·0
Belfast -	26·8	25·9	25·6	26·6	Lisburn -	24·2	14·5	38·7	14·5
Cork -	29·2	26·6	20·8	18·2	Londonderry	21·4	33·9	17·8	23·2
Drogheda	12·7	21·1	21·1	21·1	Lurgan -	20·5	25·7	41·0	30·8
Dublin -	23·2	27·2	22·7	27·2	Newry -	17·6	3·5	7·0	17·6
Dundalk -	34·9	26·2	17·5	17·5	Sligo -	9·6	4·8	4·8	28·9
Galway -	37·0	20·2	23·5	6·7	Waterford -	27·8	37·0	25·5	16·2
Kilkenny	16·9	29·6	21·1	12·7	Wexford -	29·9	17·1	29·9	38·5

In the week ending Saturday, May 1, the mortality in twenty-eight large English towns, including London (in which the rate was 18·5), was equal to an average annual death-rate of 20·2 per 1,000 persons living; in Glasgow the rate was 25·4; and in Edinburgh 22·5. The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 25·6 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in nine of the districts, to 8·7 in Dundalk; the 8 deaths from all causes registered in that district comprise 1 from whooping-cough and 1 from diarrhœa. The 114 deaths from all causes registered in Belfast comprise 1 from scarlatina, 1 from whooping-cough, 1 from enteric fever, and 3 from diarrhœa. Among the 45 deaths in Cork are 2

from enteric fever; and the 33 deaths in Limerick comprise 4 from whooping-cough and 2 from diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 195—103 boys and 92 girls—and the deaths to 165—73 males and 92 females.

The deaths represent an annual rate of mortality of 24·4 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 23·2 per 1,000.

Sixteen deaths from zymotic diseases were registered, being 16 below the average for the corresponding week of the last ten years, and 1 under the number for the week ended the 24th ultimo; they comprise 1 from measles, 2 from scarlet fever (scarlatina), 5 from whooping-cough, 1 from diphtheria, 2 from simple continued and ill-defined fever, &c.

In the week ending Saturday, May 8, the mortality in twenty-eight large English towns, including London (in which the rate was 18·7), was equal to an average annual death-rate of 20·6 per 1,000 persons living; in Glasgow the rate was 26·1; and in Edinburgh 17·8. The average annual death-rate in the sixteen principal town districts of Ireland was 25·7 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in ten of the districts to 5·2 in Armagh; the 3 deaths from all causes registered in that district comprise 1 from scarlatina. The 110 deaths from all causes registered in Belfast comprise 3 from scarlatina, 1 from whooping-cough, 1 from enteric fever, and 3 from diarrhœa; and the 41 deaths in Cork comprise 2 from measles.

In the Dublin Registration District the births registered during the week amounted to 259—122 boys and 137 girls—and the deaths to 188—89 males and 99 females.

The deaths represent an annual rate of mortality of 27·8 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 27·2 per 1,000.

Fifteen deaths from zymotic diseases were registered, being 13 below the average for the corresponding week of the last ten years, and 1 under the number for the week ended the 1st of May; they consist of 7 from whooping-cough, 4 from diphtheria, 1 from enteric fever, 2 from diarrhœa, and 1 from cerebro-spinal fever.

In the week ending Saturday, May 15, the mortality in twenty-eight large English towns, including London (in which the rate was 17·8), was equal to an average annual death-rate of 19·1 per 1,000

persons living; in Glasgow the rate was 27·6; and in Edinburgh 20·8. The average annual death-rate in the sixteen principal town districts of Ireland was 23·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·4 per 1,000, the rates varying from 0·0 in twelve of the districts to 2·8 in Belfast; the 109 deaths from all causes registered in that district comprise 2 from scarlatina, 1 from typhus, 1 from whooping-cough, 1 from diphtheria, 1 from ill-defined fever, 4 from enteric fever, and 2 from diarrhœa. Among the 32 deaths in Cork are 1 each from measles, typhus, and diarrhœa; and the 10 deaths in Londonderry comprise 1 from typhus.

In the Dublin Registration District the births registered during the week amounted to 192—100 boys and 92 girls—and the deaths to 158—81 males and 77 females.

The deaths represent an annual rate of mortality of 23·3 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 22·7 per 1,000.

There were but 9 deaths from zymotic diseases registered, being 6 under the number for the preceding week, and 22 below the average for the 19th week of the last ten years; they comprise 2 from scarlet fever (scarlatina), 2 from whooping-cough, 3 from enteric fever, and 1 from diarrhœa, &c.

In the week ending Saturday, May 22, the mortality in twenty-eight large English towns, including London (in which the rate was 17·3), was equal to an average annual death-rate of 18·7 per 1,000 persons living. In Glasgow the rate was 25·4; and in Edinburgh 21·0. The average annual death-rate in the sixteen principal town districts of Ireland was 24·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·3 per 1,000, the rates varying from 0·0 in Galway, Kilkenny, Drogheda, Wexford, Sligo, Lisburn, Lurgan, and Armagh to 4·4 in Dundalk; the 4 deaths from all causes registered in the last-named district comprise 1 from diarrhœa. The 113 deaths from all causes registered in Belfast comprise 1 from scarlatina, 1 from whooping-cough, 1 from diphtheria, and 4 from diarrhœa. Among the 20 deaths in Limerick are 1 from typhus and 1 from whooping-cough; and the 13 deaths in Londonderry comprise 2 from whooping-cough.

In the Dublin Registration District the births registered during the week amounted to 205—104 boys and 101 girls—and the deaths to 194—91 males and 103 females.

The deaths represent an annual rate of mortality of 28·6 in every

1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 27·2 per 1,000.

Ten deaths from zymotic diseases were registered, being 1 over the low number for the preceding week, but 21 under the average for the twentieth week of the last ten years; they comprise 1 from typhus, 2 from whooping-cough, 1 from diphtheria, 1 from cerebro-spinal fever, 1 from enteric fever, 1 from diarrhœa, 2 from erysipelas, &c.

Asiatic Cholera.—Since April 18, an epidemic of this fatal disease has prevailed in Italy. Between that date and the 14th of May, 846 cases with 381 deaths were reported from the entire kingdom. The outbreak has visited with greatest severity the provinces of Venice, Bari, and Lecce (with Brindisi). Since the 4th of June the disease has not spread to new towns in Italy. According to the official bulletins, there occurred in the interval from May 25 to June 3, in the whole Venetian province, 465 cases and 247 deaths.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of May, 1886.

Mean Height of Barometer,	-	-	-	29·898 inches.
Maximal Height of Barometer (on 5th, at 9 a.m.)	-	-	-	30·377 „
Minimal Height of Barometer (on 17th, at 6 15 p.m.)	-	-	-	29·182 „
Mean Dry-bulb Temperature,	-	-	-	50·2°.
Mean Wet-bulb Temperature,	-	-	-	47·2°.
Mean Dew-point Temperature,	-	-	-	44·1°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·292 inch.
Mean Humidity,	-	-	-	80·8 per cent.
Highest Temperature in Shade (on 5th),	-	-	-	67·4°.
Lowest Temperature in Shade (on 1st),	-	-	-	35·8°.
Lowest Temperature on Grass (Radiation) (on 1st),	-	-	-	26·9°.
Mean Amount of Cloud,	-	-	-	67·9 per cent.
Rainfall (on 21 days),	-	-	-	5·472 inches.
Greatest Daily Rainfall (on 12th),	-	-	-	1·266 inch.
General Directions of Wind,	-	-	-	N.E., E.

Remarks.

Like May, 1885, this was a cold, unsettled, showery month, although not so cold as the month named, while the rainfall was more than double as large (5·472 inches, compared with 2·532 inches in 1885). Considering that May, on the average, is the driest month of the year in Dublin, the exceptional nature of the rainfall in 1886 is thrown into bold relief; and a further noteworthy feature is the fact that more than an inch of rain was measured on each of two consecutive days—1·151 inches

on the 11th and 1·266 inches on the 12th. This was altogether a phenomenal downpour for May. The other leading characteristics of the month were cloudy skies, and north-easterly or easterly winds, often forming portion of the circulation round areas of low pressure, which did not come in over Western Europe from the Atlantic, but which either travelled northwards from the Mediterranean and the Peninsula, or else developed over France and the United Kingdom.

In Dublin the mean temperature ($50\cdot5^{\circ}$) was lower than that recorded in the month of May, except on five occasions in the twenty years, 1865–84—viz., in 1866 ($50\cdot1^{\circ}$), in 1869 ($48\cdot2^{\circ}$)—the lowest mean temperature yet observed in May—in 1872 ($50\cdot4^{\circ}$), in 1877 ($49\cdot7^{\circ}$), and in 1879 ($48\cdot8^{\circ}$). In 1885 the mean temperature was as low as $48\cdot7^{\circ}$, and in 1876 it was identical with that recorded in the present year.

The mean height of the barometer was 29·898 inches, or 0·098 inch below the average value for May—namely, 29·996 inches. The mercury rose to 30·377 inches at 9 a.m. of the 5th, and fell to 29·182 inches at 6 15 p.m. of the 17th. The observed range of atmospherical pressure was, therefore, 1·195 inches—not much less than an inch and a quarter. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was $50\cdot2^{\circ}$, or $4\cdot7^{\circ}$ above the value for April, 1886; that calculated by Kaemtz's formula—viz., $\text{min.} + (\text{max.} - \text{min.} \times \cdot 41) = \text{Mean Temp.}$ —from the means of the daily maxima and minima was $49\cdot3^{\circ}$, or $1\cdot6^{\circ}$ below the average mean temperature for April, calculated in the same way, in the twenty years, 1865–84, inclusive ($50\cdot9^{\circ}$). The arithmetical mean of the maximal and minimal readings was $50\cdot5^{\circ}$, compared with a twenty years' average of $52\cdot1^{\circ}$. On the 5th the thermometer in the screen rose to $67\cdot4^{\circ}$ —wind S.E.; on the 1st the temperature fell to $35\cdot8^{\circ}$ —wind E. The minimum on the grass was $26\cdot9^{\circ}$ on the latter date. The rainfall was 5·472 inches, distributed over 21 days. The average rainfall for May in the twenty years, 1865–84, inclusive, was 1·938 inches, and the average number of rainy days was 15·1. The rainfall, therefore, and the rainy days were very much in excess of the average. In 1869, the rainfall was also very large—5·414 inches on 19 days—and in 1878, 4·540 inches fell on 23 days. On the other hand, in 1871, only ·378 inch was measured on 9 days.

Sleet fell on the 12th. Hail was noted on the 14th, 26th, and 28th. The air was more or less foggy on the 6th, 8th, and 9th. Solar halos were observed on the 1st, 6th, 7th, and 16th. High winds prevailed on as many as eight days, and there was an easterly gale on the 12th.

The month opened with unusually low temperature in many places, but in other respects fine weather. Early on the morning of the 1st the thermometer in the screen fell to $35\cdot8^{\circ}$ in Dublin, 30° at Loughborough, 29° in London, and 26° at Cambridge.

During the week ending Saturday, the 9th, there were some fine warm

days, and indeed a gradual increase of temperature was in progress over Western Europe generally, owing to the slow movement in an easterly direction of an anticyclone, which prevailed over the United Kingdom at the beginning of the month. On the forenoon of the 4th a warm rain fell in Dublin, where vegetation made rapid progress. On this day, also, a remarkable variation in the hygrometrical state took place—the percentage relative humidity falling from 90 at 9 a.m. to 49 at 9 p.m.

The week ending on the 15th was marked by the advent of some of the most unsettled weather which had been experienced for a long while past. Into the space between two areas of high pressure—one off the north of Scotland, the other over the Mediterranean and southern Europe—some depressions advanced, while others were formed over the south of England and France. In consequence, N.E. and E. winds increased greatly in force in Ireland and England, with a remarkable fall of temperature and downpours of cold rain, with sleet and hail in many places. At the same time S.W. and W. winds prevailed in France, accompanied with severe thunderstorms. On the night of Wednesday, the 12th, a bourrasque, or tornado, passed across Spain, causing much havoc. In Dublin 1·151 inches of rain fell on the 11th, and 1·266 inches on the 12th; but at several stations the precipitation was much greater—thus, between the 11th and 13th, 4·83 inches were measured at Churchstoke (Montgomeryshire), 4·36 inches at Hereford, 4·15 inches at Pershore (Worcestershire), 3·38 inches at Ross (Herefordshire), and 3·44 inches at Fassaroe (Co. Wicklow). On the 13th the highest temperature in Dublin was 45·5°, and when the clouds rolled away on the following day the loftier mountains south of the city were seen covered with snow.

The weather of the third week (16th–22nd) remained in a very disturbed condition. Heavy rain fell in many places, and temperature was rather low for the time of year. On the morning of Monday, the 17th, a deep and complex depression appeared off the west of Ireland, travelling towards N.N.E. and causing strong southwesterly gales throughout the country. The 21st and 22nd were very fine, bright days in Dublin, but at 4 a.m. of the latter day a severe thunderstorm, accompanied with heavy rain and hail, passed over London.

From the 23rd to the 29th the weather was again changeable, showery, and at times squally. On Monday, the 24th, rain fell heavily in London throughout to the amount of 1·15 inches. This was a fine day in Dublin, but the 25th was cold, with frequent drenching showers. Hail fell on the 26th and 28th, and on the 29th the clouds changed quickly in form as though surcharged with electricity. The last two days were cool and fair in Dublin, with light or moderate easterly breezes; but on Sunday, the 30th, a thunderstorm occurred in the Co. Meath, as well as in the N.E. of Ireland.

PERISCOPE.

ANTIPYRIN.

DR. J. H. FRANKENBERG, of New York, contributes to the *Medical Record* of May 22nd a valuable article on this important new remedy, which he says is applicable to almost all cases with febrile movement; it acts with safety and certainty; it is a most powerful agent in this respect, and its effects can be graduated approximately, and prognosticated according to the amount administered. The reduction of the temperature is lasting, and accompanied by few or really no objectionable features. It first made its appearance in June, 1884. It is a white crystalline powder, of a slightly yellowish tinge, readily soluble in alcohol and water; two parts of antipyrin will dissolve in one part of hot water, and very little of the salt will be deposited on cooling. It is slightly bitter in taste, and can readily be taken in solution disguised by a drop of the oil of peppermint or other aromatic, or it may be taken in wafers. As for its objectionable traits, we find that particularly enfeebled women and children will at times complain of nausea, and even vomiting will ensue. Marked somnolency has occurred after using the drug in a few instances. To avoid the possibility of upsetting the stomach, antipyrin may be given hypodermically. As it is so readily soluble in hot water, a concentrated solution can be made, and this mode of administration has the advantage that it requires only one-half to one-third the amount of antipyrin; it avoids all gastric disturbances, and acts more rapidly and more certainly. Dr. F. has used it thus repeatedly, and has not observed an abscess or severe inflammation follow. It does not seem to be irritating, as the patients do not particularly complain when the drug is injected. This mode of administration is not to be enjoined in either very delicate children or very much debilitated persons, as the reduction of temperature may be too sudden and too great, and symptoms of collapse may possibly supervene. Dr. Frankenberg has made a series of experiments on the urine of a patient taking antipyrin, and found that the amount of nitrogen, which is an exponent of the amount of urea, was considerably diminished. And contrasting his results with those of Sassetzky, who made similar experiments on the urine of patients taking quinine, salicylic acid, and cold baths, it was concluded that the elimination of nitrogen through the urine was most reduced when antipyrin was exhibited. This proves *à priori* that antipyrin has a greater influence upon reducing the chemico-vital changes than either of the other antipyretic measures. Dr. Frankenberg thinks that the mode of giving antipyrin, recommended by Filehne—viz., thirty grain doses repeated every hour until three or four

such doses had been taken—is too bold even in hospital practice, where the patient is constantly under the eye of the physician or trained nurse; hence much less can such dosage be advocated in private practice. It was consequently Dr. Frankenberg's custom to make each individual case a study, and apportion the drug accordingly. In cases of typhoid fever or acute lobar pneumonia occurring in young healthy subjects, thirty grains were given, and the effects carefully observed. If the temperature was coming down rapidly, the drug was either withheld or only fifteen grains were given at the end of an hour. If, however, only a slight impression was made on the temperature, then thirty grains were again given, and the observation continued. Sometimes one dose would suffice, at other times seventy-five grains would have to be given in the course of three or four hours. In still other cases the same amount would be distributed over five or six hours. Though it was observed that when the doses were given at too long intervals a complete apyrexia would not occur, still an adequate reduction would take place to render the patient more comfortable. In some cases an eruption resembling that of measles was noticed.

NARCEIN AS AN EXPECTORANT.

IN a communication to a meeting of the Société de Biologie of May 22nd (*Gaz. Hebdom.*, 28 Mai), M. Brown-Sequard said that he had used narcein himself, and had recommended it to a number of persons in several cases of bronchitis with very viscid expectoration, and had obtained remarkable results. It had formerly been investigated by Claude Bernard, but had since fallen into unjustifiable disuse. M. Laborde confirmed the observation of M. Brown-Sequard, and stated also that he had employed narcein in whooping-cough with the effects of suppressing the paroxysms. It acted well in all cases of bronchial hypersecretion with insomnia. [There seems to be great difference of opinion as to the therapeutical action of narcein. Many observers ascribe hypnotic powers to it, although some deny that it has any such effect. The ordinary dose is given as gr. $\frac{1}{2}$ to gr. 1 in pill.]

CLIMACTERIC DIABETES IN WOMEN.

MR. LAWSON TAIT contributes to the *Practitioner* for June, 1886, an interesting communication upon this subject. He was reminded by a paper in the *Annales de Gynécologie* for October, 1885, from the pen of M. Lecorché, of a number of observations which he (Mr. Tait) had made from time to time since his first recognition in the year 1873 of the fact that diabetic urine may cause vulvar eczema. The conclusions which Mr. Tait has arrived at are that in the great majority of cases of eczema of the vulva at the climacteric period, the disease is due to the presence of sugar in the urine. He has not yet come across a case of this kind

in which, having examined for sugar, he has not found it. The disease seems to begin at or near the time of the arrest of the menstrual functions, and to extend over a period of several years, then terminating in all probability by nature's own process. The sufferings of the patient are very much diminished, and probably the duration of the disease is shortened, by the liberal administration of opium; whilst the local trouble is best mitigated by ointments containing such substances as will arrest the process of fermentative change in the sugar. So far the best substance Mr. Tait has found for the purpose is the old-fashioned "hepar sulphuris." The paper is illustrated by notes of six cases.

IODOL IN OCULAR THERAPEUTICS.

IODOL is a combination of iodine and of pyrol. It is a greyish powder, containing 85 per cent. of iodine, and possesses the properties of iodoform without its disagreeable smell. It may be employed either as an ointment, with an equal weight of vasaline, or in alcoholic solution with glycerine. It is but very slightly soluble in water. According to M. Trousseau, in a communication made by him to a recent meeting of the Société de Thérapeutique, excellent results have been obtained from its employment as a pomade in cases of blepharitis with ulceration in affections of the lachrymal passages and in chronic conjunctivitis. On the other hand, it has but slight effect in acute conjunctivitis. The ointment is much superior to the yellow precipitate one in phlyctenular or granular conjunctivitis, and in chronic (torpid) ulcers of the cornea. In fine, iodol is superior to iodoform by its marked anæsthetic and antiseptic properties, and by its rapid influence upon the cicatrisation of rebellious ulcers.—*Gaz. Hebdom.*, Mai 21.

THE PATHOLOGY OF ARTERIO-CAPILLARY FIBROID KIDNEY.

NEXT to or even equal with the pulmonary functions, the renal functions stand foremost for the maintenance of health. If the former represents aërial respiration, the latter represents aquatic respiration. The one clears the system of gaseous, the other of solid excreta. The function of water in the body is probably not yet as much considered as it deserves to be, and our practical ideas of the circulation are too much restricted to the onward current through the capillary vessels, whilst the interstitial circulation, the transit of the blood plasma and water through the textures of the organs, is too often ignored. Sir William Gull points out, in the April number of *The American Journal of the Medical Sciences*, that it is in the course of this interstitial circulation through the arterioles and capillary walls, that the first difficulty occurs which leads on to arterio-capillary fibroid changes, whether in the kidney or elsewhere. These changes are characteristic of a wide-spread pathology of the vascular system supervening about the middle and later periods of life. Whilst we can no

longer, in one large class of cases, refer the arterio-capillary changes in the various organs, including the kidney itself, to the kidney as the primary seat of disease, and to the consequent uræmia, it is still a question how far a local fibroid change beginning in the kidney, and having its origin there, may lead to systemic arterio-capillary changes of the same character as those which come on idiopathically in later life.

MENTHOL IN URTICARIA AND PRURITUS.

AMONG the myriad of remedies, says the *Buffalo Med. and Surg. Journ.*, for these troublesome affections we have no other which affords such complete and instantaneous relief as a solution of menthol. Not only is the itching relieved for the time, but a cure seems to be effected. In pruritus ani and in eczema moistening the parts with menthol solution causes an immediate cessation of the pain. The solution should contain from 2 to 10 grains of menthol to the ounce of water.—*The Pharmaceutical Journal*, May 15.

GONORRHŒAL RHEUMATISM.

LOEB is of opinion that gonorrhœa is complicated by rheumatism only in those cases in which the gonorrhœal process has attacked the hinder portions of the urethra, and in favour of this view he adduces the two facts—first, that the rheumatic symptoms never occur in the early stages of the gonorrhœa, and, secondly, that in the great majority of cases the rheumatism is never seen at all during the first attack, but only after subsequent attacks, when the posterior parts of the urethra are almost certain to be involved. As to the disputed point whether the rheumatism is to be considered as a disease *sui generis*, or as merely an ordinary rheumatic inflammation of the joints, predisposed by the gonorrhœal infection, he comes to the conclusion that *polyarthritidis rheumatica* and gonorrhœal rheumatism are two perfectly distinct diseases, and he bases his conclusions on the following grounds:—(1) The difference in the relation of the fever to the local changes in the two diseases, in ordinary rheumatism the fever and the joint affection generally running hand in hand, whereas in gonorrhœal rheumatism the fever is always slight and in most cases is almost, if not entirely, absent. (2) The difference in duration of the two processes, the gonorrhœal rheumatism running a much longer course. (3) Gonorrhœal rheumatism is much less erratic in its character than ordinary rheumatism. (4) The frequent association of gonorrhœal rheumatism with inflammation in the eyes, this inflammation, according to him, occurring sometimes without contagion, and being simply another local expression of the gonorrhœal infection. (5) The less frequent implication of the heart in gonorrhœal rheumatism. (6) The greater tendency to inflammation of the sheaths of tendons and synovial sacs generally in gonorrhœal rheumatism. (7) And lastly, the difference

in behaviour of the two processes towards the salicylates. Loeb thus considers the gonorrhœal rheumatism as an infectious process, the seat of infection being the hinder parts of the urethra; and this view receives apparent support from the recent discovery of a specific organism in the gonorrhœal secretion, the gonococcus. Some doubt, however, still exists as to the specific character of this organism, and hence Loeb is more inclined to think that the cause of the infection will be found in non-specific organisms, examples of whose action in producing inflammation in joints we have, according to him, in the rheumatic affections of the joints which sometimes occur during the puerperium, also along with bronchiectasis, scarlet fever, and dysentery. As to the treatment, it is especially important as quickly as possible to cure the inflammation in the urethra, and especially of the hinder parts. (*D. Arch. f. klin. Med.*, Dec., 1885, and *Practitioner*, June, 1886.)

ANTIPYRIN, A LOCAL UTERINE HÆMOSTATIC.

CHÉRON, in the *Révue Médico-Chirurgicale des Maladies des Femmes* for March, refers to some experiments made upon animals, reported by Arduin to the Congress of Grenoble in August, 1885, to determine the relative value of ergot, of the muriated tincture of iron, and of antipyrin as local applications for the arrest of bleeding. These experiments proved the superiority of the last. In consequence of the results obtained by Arduin, Cosati was led to use antipyrin. His conclusions are that it is a powerful hæmostatic, the action of which is shown in a very short time; it is superior to ergotin, to perchloride of iron, and to the thermo-cautery, and in many cases it ought to be selected because of its antiseptic and antipyretic action. Chéron has used it successfully in a four per cent. solution for the arrest of hæmorrhage from a lacerated cervix, which applications of perchloride of iron had only temporarily stopped. He also used it successfully in the hæmorrhage occurring in an operation for vesico-vaginal fistula, and in one for perineoplasty. In epithelioma of the neck of the womb, antipyrin may be used by injection or immediately applied, and it lessens the bloody and sero-purulent discharges.—*N. Y. Medical News*, May 8.

URETHAN.

THIS new hypnotic, which has been already fully noticed in this Journal,^a appears to have properties worthy of the attention of the profession. Chemically it is an ethylic ether of carbamic acid, and when pure consists of white rhomboidal crystals which are readily soluble in water. Schmiedeberg experimented with it upon animals, and von Jaksch, Jolly, and others have studied its action in man. In suitable doses it produces a deep, dreamless, natural sleep from which the individual awakens refreshed and without the unpleasant sensations which so often accompany

^a See Vol. LXXXI. Pages 87, 285, 352.

the use of a hypnotic. It does not appear to have any special action on the circulatory, respiratory, or excretory system. The effect of the drug seems to be exclusively upon the higher cerebral centres. Eloy, in *L'Union Médicale*, Nos. 36 and 37, 1886, reviews its use in ninety cases which have been reported, including many of heart disease, phthisis, and neuralgia, in most of which it acted promptly and satisfactorily. In phthisis it seems also to allay the cough. Restlessness and insomnia, not pain, are the special indications for its administration. The dose as a sedative is from fifteen to thirty grains, and as a hypnotic thirty to sixty grains. It is not unpleasant to take, and is best given in a single dose. If the statements regarding the action of the urethan are borne out by subsequent experience, a very valuable agent has been added to the pharmacopœia—a powerful hypnotic acting on the higher cerebral centres, and without any of the unpleasant effects of morphia or chloral.—*N. Y. Med. News.*

THE STRATHPEFFER SPA SANATORIUM, DINGWALL, N.B.

THIS establishment is specially designed for the reception of a select number of persons requiring medical or hygienic treatment. The valley is well sheltered, most suitable as a winter residence, the climate most salubrious, and the scenery beautiful, with lovely drives and different places of attraction in the neighbourhood. The waters are said to be superior to any other in Europe for the cure of rheumatism, skin, liver and kidney diseases. The Chalybeate Well is highly recommended for delicate ladies. The Baths are within a few minutes of the residence. There is a direct Railway communication to the Spa, which is only 16 hours from London. The Sanatorium is under the direction of Dr. Donald Macrae, who will be happy to furnish all necessary information.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Compound Syrup of the Hypophosphites (Lorimer & Co.)

MESSRS. LORIMER & Co., of Hargrave Park Road, London, N., have submitted to us a specimen of their compound syrup of the hypophosphites. We have not yet had an opportunity of testing its therapeutical value; but it is a very sightly preparation, being perfectly clear and free from deposit. It is slightly alkaline in reaction. Each teaspoonful (one fluid drachm) is stated to contain 2 grains of lime hypophosphite, $1\frac{1}{2}$ grains of sodium hypophosphite, 1 grain of potassium hypophosphite, $\frac{3}{4}$ of a grain of iron hypophosphite, $\frac{1}{4}$ of a grain of the hypophosphites of manganese and quinine respectively, and one-hundredth of a grain of strychnine hypophosphite. The dose for an adult is one teaspoonful, in a wineglassful of water after each meal. It may be given to children, of course in doses proportioned to their age, and is a very palatable preparation.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

AUGUST 2, 1886.

PART I.

ORIGINAL COMMUNICATIONS.

ART. IV.—*The Treatment of Presentations and Prolapses of the Funis.* By WILLIAM C. NEVILLE, M.A., M.D., and Master of Obstetrics, Univ. Dubl.; M.K.Q.C.P.; Fellow, Hon. Sec. of the Obstetrical Section, and Member of General Council, Academy of Medicine in Ireland; Physician to Pitt-street Institution for Diseases of Women and Children.

[Concluded from page 17.]

I MAY now briefly recapitulate the line of treatment I have recommended in cases of funis presentation.

1. In all cases the patient should be strictly confined to bed.
2. In breech or footling presentations the various postural methods of reposition may be tried. If the funis become reposed under the influence of such devices we should wait until the os is nearly fully dilated, when there is danger of sudden spontaneous rupture of the membranes. Then place the patient in the knee-chest posture, and in the interval between two pains rupture the membranes artificially, making as small an opening as possible so that the liquor amnii may escape slowly. Keep the patient in the knee-chest position until the bulk of the waters has escaped, and the breech has descended so as to fill the inlet and block it as much as possible against a prolapse. Then change the patient's position to the usual side one.

If the funis does not recede under the influence of postural treatment, wait until the os is one-half to two-thirds dilated, and then introducing a hand into the uterus repose the cord, and bring

down a leg so as to block the outlet against prolapse. This operation is best done, if the patient be a steady pluripara, in the knee-chest position. In primiparæ or nervous patients chloroform may be required, and the patient may then be placed in the lateral semiprone position, with her hips well raised during the operation. After its conclusion, unless immediate extraction be indicated by the unsatisfactory nature of the foetal heart-beats, delivery should be left to nature, aided from time to time by tractions on the leg, which will help to keep the uterine outlet blocked against the extrusion of the funis.

3. When the shoulder presents, if the foetal body be fairly mobile within the uterus, external version can usually be performed with ease, and the breech brought over the os. The case may be treated as an original breech presentation; if not, when the os is about two-thirds dilated, introduce a hand into the uterus, repose the cord, and bring down a leg as above recommended.

4. When the head (face or brow) presents, external version should if possible be performed early in labour; after which, if successful, the case may be treated as one of breech presentation. If unable to turn by external manipulation, try and do so by the combined method of Braxton Hicks, without rupture of the membranes when the os is one-half dilated. If successful, we may find that with the version the cord has disappeared, in which case labour should be allowed to progress uninterfered with until the time arrives for artificial rupture of the membranes with the patient in the knee-chest posture—*i.e.*, when spontaneous rupture is close at hand. If, however, the cord still presents, we should try postural methods for a short time—failing which, the membranes must be ruptured, the cord manually reposed, and a leg brought down until the outlet is blocked by the thigh or breech. If the membranes rupture accidentally while attempting to turn through them by Braxton Hicks' method, the version must be completed at once either by that or by the ordinary podalic method, and, the cord being manually reposed, a leg brought down. The only effect will have been to precipitate matters somewhat, while depriving us of the chances of spontaneous recession, or of recession under postural treatment. In head, face, or brow presentations, even though the cord may recede spontaneously or with the aid of postural treatment, its tendency to re-present or prolapse in the course of labour makes version always desirable if it can be accomplished without rupture of the membranes. In some cases external version is so easy that

the position of the child can be altered almost *ad infinitum* through the abdominal walls. In such cases recession of the cord can often be secured by adopting the device of repeated turnings. It is always desirable, however, in view of the chance of its again presenting, that the final presentation of the child should be one of the breech. After successful version with intact membranes a binder should be applied, as otherwise the child is very apt to revert spontaneously to its original position.

Two main principles underlie all the above recommendations—viz., firstly, to prevent the presentation of the funis passing into its dangerous sequel of prolapse, and, secondly, to obtain the presentation of the foetus, which experience and reflection alike prove to be attended with least danger to the child.

We must now consider the treatment of prolapse of the funis.

Prolapse most commonly occurs as a sequel to presentation of the funis, but it may also occur independently of presentation after rupture of the membranes, and more especially during the outflow of the liquor amnii. In either case the membranes may have ruptured and the cord have prolapsed before the patient is seen. The treatment of such cases is much less promising than that of presentation—for, apart from the chance that the child may have been asphyxiated before any opportunity has been afforded of trying to save it, it will most probably have suffered considerably from the disturbance of its placental respiration. It may be already dead, or its condition may be one of such semi-asphyxiation as must greatly lessen its chances of surviving still further and necessary risks.

If the prolapsed cord be pulseless when the patient is first seen, nothing can, of course, be done. It is necessary, however, to make sure that the pulselessness is permanent and not due to any temporary cause, such as the compression exerted on the cord occurring during the continuance of a "pain."

When the cord is found to be prolapsed and pulsating the treatment must altogether depend upon the individual circumstances of each case.

1. *If the prolapse occurs when the os is only very slightly dilated*, the funis must be secured from the risks of compression, while steps are taken to provide for the quickening of labour. These ends may be obtained by—(1) reposing the cord, (2) altering the position of the foetus should it be presenting by its head end, and (3) employing water dilators for the dilatation of the os.

If the cord be much prolapsed with weakened pulsations, the first step must consist in its reposition, which can best be effected while the patient is in the knee-chest position, by one of the special devices presently to be mentioned. But if only a small loop is prolapsing and its pulsations be strong, it is preferable to postpone this step until after the alteration of the child's position, which is advisable when it presents by its head end.

By turning under these circumstances we do much towards lessening the risk of funic compression which must continue once the liquor amnii has escaped, so long as the hardest and bulkiest portion of the child is allowed to press most directly against the very region of the uterus into which the cord has gravitated. The combined bimanual version at this early period is also much easier than it would be later on in labour, when the uterus may have moulded itself tightly around the body of the child; and once performed, it puts us in a position to proceed at once to extraction, should this be necessary, after the cervix has been sufficiently dilated. The version at this stage must, of course, if at all, be performed by external manipulations, or by the combined method of Braxton Hicks, which can scarcely fail in skilled hands when the liquor amnii has not escaped for too long a time. The great point consists in removing the head from over the os, substituting for it a breech or shoulder. The latter, indeed—as the least likely to cause compression—might be temporarily the most desirable, if we could be sure that it would not quickly revert into its original presentation. A slight prolapse may disappear during such version.

The third step consists in introducing a suitable-sized water dilator, which must in due time be replaced by a larger-sized one, dilatation being thus proceeded with until the os is sufficiently dilated (about one-third) and dilatable to introduce a hand and bring through a leg. The replacing of the water dilators is best done with the patient in the lateral semiprone position, with her hips very well raised; and the dilator *in situ* should not be removed until the new one has been pushed up to the cervix, ready to take its place immediately. In the case of a steady multipara I would prefer to introduce the dilators while she was in the knee-chest posture, the trouble attending re-prolapse of the cord being thus best guarded against. Sufficient dilatation can almost always be attained by one change of dilators.

After a leg has been safely brought through the os we are

fairly secure against a recurrence of prolapse. Labour should then be helped by occasional tractions made synchronously with the uterine contractions. The foetal heart must be watched, and quick extraction proceeded with should it appear necessary in the interest of the child.

2. *When the os is fairly dilated* version may be at once performed if required to bring the lower extremity over the os, the hand then introduced into the uterus, the cord manually reposed, and a leg brought down, &c.; or simple podalic version may be had recourse to directly. The same proceeding is also most advisable when the os is fully or almost fully dilated, and the head or breech is at the inlet.

3. *When the patient is in the second stage of labour*, the presenting part (head or breech) being in the pelvic cavity, if this be tolerably roomy in a pluripara, it is best to deliver quickly, doing what we can to guide the cord into a position as much out of the way of pressure (*e.g.*, into one or other sacro-sciatic notch) as possible. Thus the forceps can be applied to the head, while, if the breech cannot otherwise be quickly delivered, one leg may be brought down. Quick delivery in these cases is really safer, causing less delay and opportunities for compression than an appeal to the unsatisfactory proceedings for reposing the cord. Even when we happen to be without a forceps we may be able to complete delivery very rapidly when the head is in the pelvis by impressing upon the patient the absolute necessity for her making the utmost of her "pains," while we assist them by a vigorous and intelligent use of the method of "expression." I have been more than once struck by the remarkable efforts which a woman can make when told that upon the strength and duration of her pains the life of her child depends. It is seldom, indeed, that a patient in labour puts forth the whole force of her voluntary efforts with the intention of rapidly terminating her labour; and when stimulated by fears or hopes into doing so, the effect is sometimes quite astonishing.

It only now remains briefly to allude to the methods and uses of reposing a prolapsed funis. The idea of reposition is a natural one, and some of the special devices for effecting it are fascinating in their ingenuity. Experience, however, proves that reposition is a most tantalising and unreliable operation. As fast as one loop of the cord is replaced another comes down, and when we do at length regard the reposition as an accomplished fact, we may only have to wait for the next "pain" to discover how premature were

our hopes. The unsatisfactory results which have generally marked the treatment of prolapsed funis are, I believe, largely to be credited to a groundless belief in the efficacy of reposition as the "be all and end all" of its treatment. The child suffers much from excessive handling and chilling of the funis, apart altogether from the repeated risks of its compression when prolapse recurs often. It should be an accepted rule in the treatment of these cases always to have regard to the possibility of the prolapse recurring, and therefore only to regard reposition as a necessary preliminary of the treatment, immediate subsequent measures being taken to block the uterine outlet in such a way as will keep the cord from again descending. The methods of effecting this imprisonment of the cord under various circumstances have been sufficiently indicated in the directions given as to treatment.

Reposition of the cord may be effected posturally, manually, or instrumentally. Postural reposition is of most service when the membranes are unbroken, or as an aid to the other methods of reposition. I have also alluded above to the advantages of rupturing the membranes artificially with the patient in the knee-chest position in cases where the cord had presented at an earlier stage of labour.

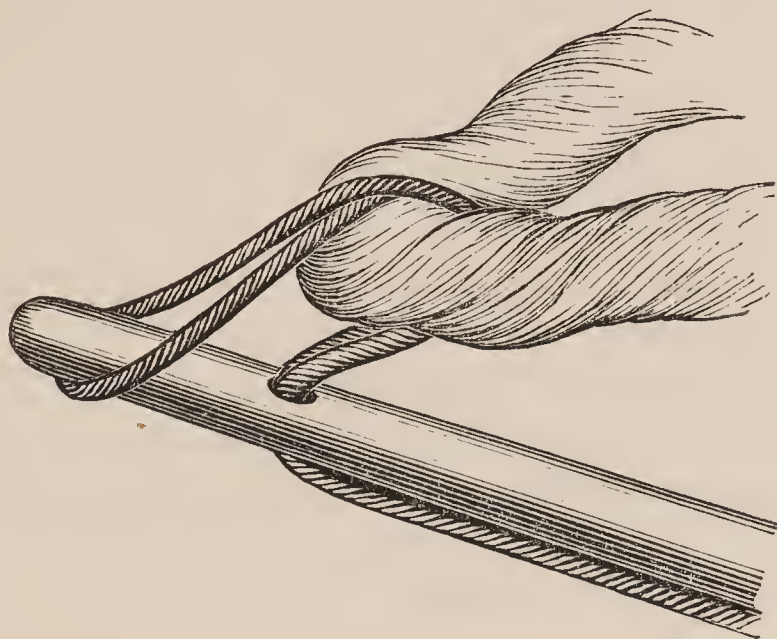
Manual reposition I have recommended in those cases of presentation or prolapse in which the dilatation or dilatability of the cervix was such as to make it advisable to bring down a leg, and thus block the outlet against recurrence of the accident. This would be, therefore, the selected treatment in those cases of funis presentation seen from an early stage of labour.

Instrumental reposition is necessary only under two sets of conditions. The first is when prolapse is associated with premature rupture of the membranes, the os not being sufficiently dilated to repose manually and bring down a leg. The second is when the prolapse co-exists with a head, face, brow, or breech presenting in the upper part of the pelvis during the second stage of labour, the general conditions being such as make it desirable to secure reposition before proceeding to extraction.

An endless variety of devices exist for the purpose of effecting reposition. Of special repositors the simplest and best is that of Braun (Fig. 1), an excellent substitute for which can readily be made out of a long (14–18 in.) flat stick of whalebone, perforated by a good-sized hole about two inches from its extremity. The noose is best made by some soft material—*e.g.*, floss silk, narrow

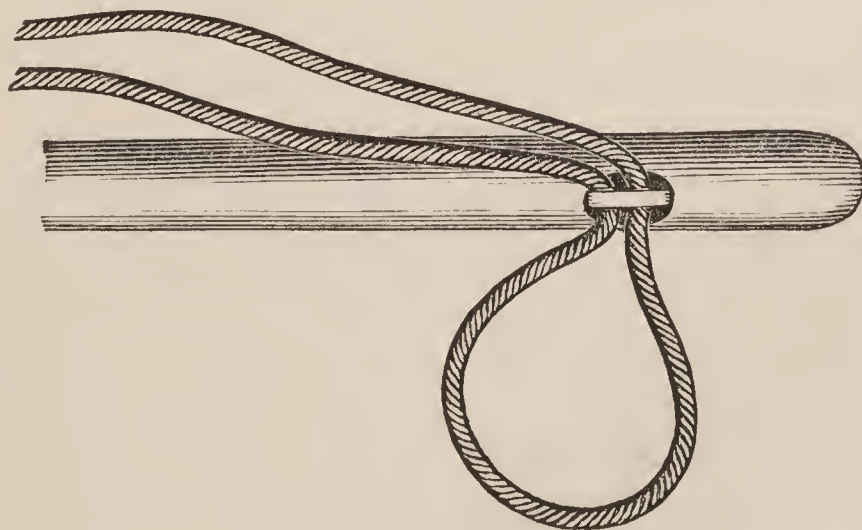
tape, or worsted. The woodcut sufficiently indicates how the funis is intended to be caught prior to its reposition. When prolapsed completely out of the vagina, it is preferable to embrace in the noose an entire loop of the funis, which should be made as long as possible by pushing the noose well up over it into the vagina.

Fig 1.—Braun's Repositor.



Braun has, however, himself practically discarded this repositor in favour of one formed by an ordinary full-sized male gum-elastic catheter. The latter has the advantage of being universally available, while it can also, according to circumstances, be used in a variety of ways. When greatly prolapsed a coil of the funis may be embraced in a worsted noose formed at the eyelet in one of the ways shown in Fig. 2 or Fig. 3. The former is figured as the

Fig. 2.

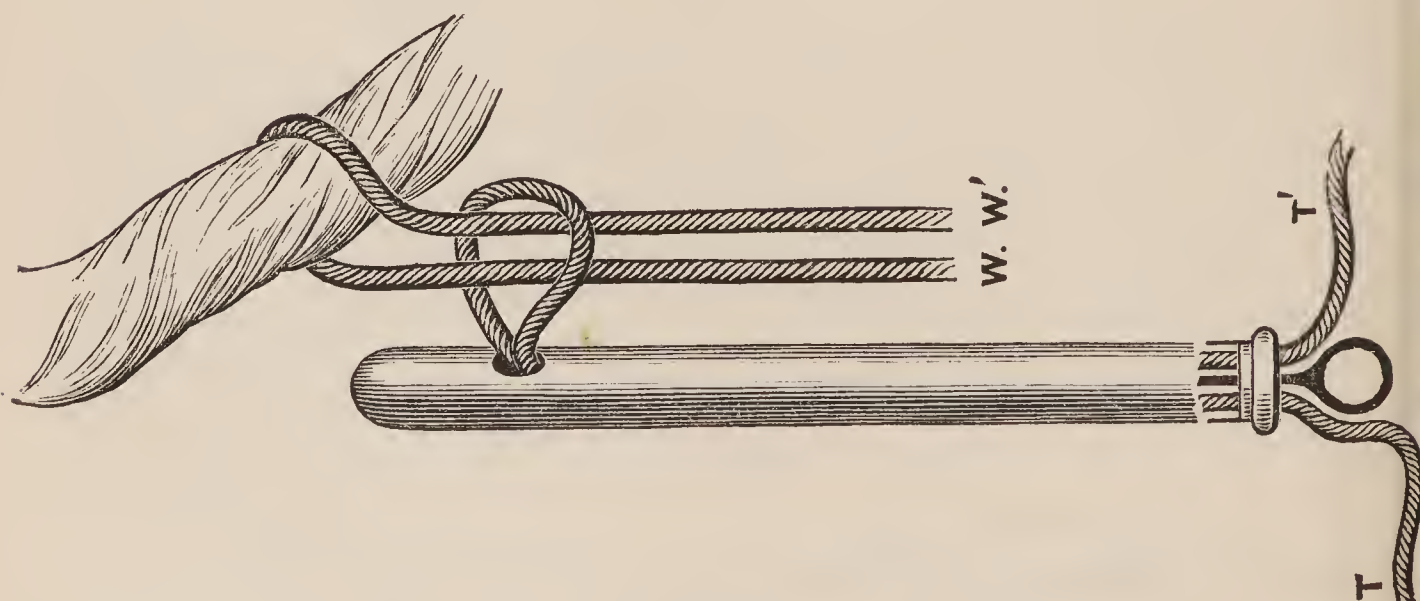


quickest way of making a catheter serve as a repositor, but it has the disadvantage of depending entirely upon the stylet, which cannot be withdrawn if it is desired, as is generally the case, to

keep the cord up by leaving the catheter in the uterus after reposition. A noose may, however, be almost as quickly made by cutting off the end of a catheter, then doubling a long piece of narrow tape and passing its folded end in through the eyelet and out of the open end of the catheter. This way of forming the noose is that which I would myself adopt; it does not depend on the stylet, as is the case with the noose formed as shown in Fig. 2, and is much more rapidly made than that shown in Fig. 3. When the funis is not sufficiently prolapsed to allow of its being snared in the ways mentioned, it is usually advised that it should be further drawn downwards by traction. This results, however, in making the prolapse greater than ever, and increases the subsequent difficulty of successful reposition.

For such cases I have devised and successfully practised the following method:—A piece of tape or other suitable material (**W W'** in Fig. 3) is first carried over the loop of prolapsed funis,

Fig. 3.



after which its two free ends are encircled by a noose formed in any of the various ways just explained. The point of the catheter is then to be pushed upwards into the vagina until in close apposition to the prolapse, when by tightening the two ends (**T T'**) of the cord which forms the noose, and uniting them around the mouth of the catheter to the straightened ends (**W W'**) of the tape, the funis is secured without any risk of compression. When only a very small loop of the funis is prolapsed at the roof of the vagina the tape or worsted should be carried over it by means of a catheter, sufficiently curved and provided with a stylet. Carrying the curved end of the catheter over the loop of

funis, we can then catch the end of the tape in our fingers, and, keeping the catheter *in situ*, draw it downwards without danger of dragging on the funis at the same time. The universal applicability of this method—which I have not seen elsewhere described—and the freedom it gives from any danger of accidental compression of the cord by the means used to secure it, make it, in my opinion, preferable to any of the methods usually described.

When the funis is secured—whatever method be employed—the patient should be placed on her hands and knees, and the repositor pushed as high up into the uterus as possible. If a catheter be used it should then be left there, as, softened and made flexible by the heat and moisture of the passages, it cannot interfere with labour, or the subsequent use of water dilators, should these be required. The stylet should be withdrawn, as its continued presence would prevent the catheter being perfectly moulded against the sides of the genital canal. I have twice succeeded in permanently keeping up a prolapse occurring at a very early stage of labour by shoving the catheter entirely into the uterine cavity, and then using the dilators.

It must, however, be remembered that one loop of the cord reposed, another is only too likely to take its place. Hence the rule that, immediately after reposition, we should always take measures to block the uterine outlet against a further prolapse. I have previously shown that instrumental reposition is only rarely needed—firstly, when the membranes have ruptured at the beginning of labour, in which case further prolapse is secured against by the use of water dilators, &c.; secondly, when the prolapse occurs at the beginning of the second stage, and when quick delivery cannot be relied on, in which case reposition is only a preliminary to the use of the forceps, or other measures for hastening delivery.

I am prepared for two principal criticisms upon the treatment advocated in this communication. The treatment, it may be said, is too active and aggressive. Presentation does not necessarily pass into prolapse of the funis, nor is prolapse itself, even when left alone, always fatal to the child. Is it not more advisable therefore to forbear from active interference until what may prove to be only a potential becomes, if it does become, a positive and actual danger? In answer to such an argument it is only necessary to point out that here, as elsewhere, we have to deal with and provide for average rather than for exceptional results; that the average

consequences of presentation of the funis are such as make active interference necessary at one time or another; and that the results hitherto obtained from the practice of waiting until imminence of the danger imperatively calls for interference have been extremely unsatisfactory. My own experience leads me to the conclusion that much better results can be achieved by at once recognising the evil tendencies of funic presentation, and by attempting to forestall or to minimise them by adopting the line of treatment above advocated.

Secondly, it may be urged that some of the proposals upon which I lay most stress are largely impracticable, inasmuch as we seldom see labour-patients until towards the termination of the first stage, and very commonly not until after the membranes have ruptured. On this point each one must answer for his own practice. For my own part, believing that there are many cases, unrecognisable by an average nurse, in which skilled aid is very desirable, if not absolutely essential, during the first stage of labour, I always ask to be sent for as soon as labour has set in. I do not, of course, maintain that it is our duty to remain in constant attendance upon our patient—a primipara, perhaps—throughout the length of a protracted first stage, but that we should make it a rule to see her as soon after its beginning as possible, and afterwards at sufficiently frequent intervals to satisfy ourselves that nothing is left undone which could contribute to her or the child's safety. If so much be not done, whenever possible, there is a failure in duty towards the patient; and if it be done, a presentation of the funis must be recognised betimes, and treated promptly.

ART. V.—*The Pathology and Treatment of Puerperal Eclampsia.*^a

By JOHN W. BYERS, M.A., M.D.; Physician for Diseases of Women to the Royal Hospital, Belfast; and Physician to the Belfast Hospital for Sick Children; Fellow of the Obstetrical Society of London, and of the British Gynæcological Society,

PUERPERAL eclampsia is one of the most serious and alarming complications met with in the practice of midwifery. The extreme suddenness with which it often occurs, as well as the great fatality with which it is attended, are surely circumstances which demand that we should give to the study of this subject our most serious

^a Read before the Ulster Medical Society, Thursday, April 22nd, 1886.

thought and attention. Now I am sorry to have to admit that we are still in great doubt as to the exact pathology of this disease, and, what is of probably greater practical interest, there is considerable diversity of opinion among obstetricians as to the proper line of treatment to adopt when this complication occurs. I purpose in this paper to discuss the pathology and treatment of eclampsia; but, before doing so, let me give the details of some cases that have come under my own observation:—

CASE I.—S. H., aged twenty-four, a primipara, single, was admitted to my ward in the Royal Hospital, Belfast, in an unconscious condition, on the afternoon of Friday, March 12th, 1886, with the history that she had suddenly “taken a fit” on the previous day, and that she had from that time remained unconscious. She was comatose on admission, and froth and blood were noticed on her lips (subsequently shown to depend on a laceration of the left side of the tongue). She had a convulsion at 5 30 p.m., and another at 6 45 p.m., immediately after the occurrence of which I saw her. She was then breathing heavily, in a semi-comatose condition; pupils dilated, insensible to light; pulse 90, full, strong, and incompressible. First sound prolonged at apex; no œdema of face, extremities, or of any part of body. Under anæsthesia, I passed a catheter; but, as she had voided urine immediately before, none was withdrawn. On abdominal examination the uterus was found to extend as high as a line midway between the umbilicus and ensiform cartilage, and the foetal heart was heard between the umbilicus and the left anterior superior spine. A pelvic examination showed that the vagina was roomy, and secreting mucus copiously; os about the size of a shilling; membranes unruptured; head presenting. I passed a bougie (previously carefully carbolised) well up to the fundus, between the uterine wall and the membranes, to accelerate labour, and ordered the patient to have a drop of croton oil on the back of the tongue and an enema of chloral and bromide at once, and to be repeated in four hours. She had a convulsion at 8 30 p.m., and another at 11 30 p.m.; at 12 30 a.m., the os being about three-fourths dilated, I ruptured the membranes. In about quarter of an hour she became restless and groaned as if in pain, and at the same time the uterus, on abdominal examination, was felt to contract; these pains recurred every ten minutes, until 2 30 a.m., when an eight-months’ foetus was expelled dead. The placenta was easily expressed, and there was no *post-partum* hæmorrhage. On the next morning she was still semi-comatose; pulse 90, strong but not so hard; there had been no more convulsions. Ten ounces of muddy urine were withdrawn; it was one-sixth albuminous, had a sp. gr. of 1025, and on microscopic examination contained renal epithelium and some casts. She remained in a drowsy,

dazed condition for two more days. On the morning of the 15th she was quite conscious, but recollected nothing of what had occurred. The urine, which was now passed voluntarily, contained about one-eighth of albumen, but on the 17th this had disappeared. The patient's convalescence was uninterrupted; she was up on the 23rd, and left hospital two weeks after admission.

CASE II.—On the morning of the 7th of July, 1880, I was hurriedly summoned to see a lady, aged eighteen, nine months married, who was found by her husband to be unconscious and unable to speak to him. On my arrival I found her in a convulsion (this was the first). Examination showed she was about seven months pregnant, but labour had not set in. Her own medical attendant joined me immediately. The urine (drawn off by catheter) we found loaded with albumen. The fits recurred at intervals of about twenty minutes, but were moderated by the inhalation of chloroform. She was given croton oil and chloral. The membranes were ruptured, the os dilated, and in the evening a dead child was delivered with the forceps. She never rallied, however, and sank one hour after the birth of the child. This was the worst case I have seen, as the convulsions, although diminished in severity by the chloroform, came regularly about every twenty minutes for twelve hours, and the patient was comatose from the time I first saw her until her death.

CASE III.—On Feb. 8th, 1885, I was called to see a pluripara, who, in her fourth pregnancy, had been seized suddenly with a convulsion. She was comatose, and on examination I found her about six months pregnant, but not yet in labour. She was treated with croton oil and chloral, the membranes were ruptured, and in two hours she gave birth to a six-months' foetus. She had two more fits. Her urine was albuminous, but this gradually cleared up, and she made a perfect recovery. She had never had such a complication in her previous confinements.

CASE IV.—I was attending a primipara, aged twenty-one, on the 13th of November, 1880, when quite suddenly—the os being about three-fourths dilated—she was seized with a severe convulsion. As soon as possible she was delivered with forceps, under chloroform, of a living child. She was given chloral and bromide. Her urine was one-fourth albuminous, had a sp. gr. of 1026, and contained casts. She made a good recovery, and had three fits altogether, one before and two after delivery. Two years afterwards I attended her in an acute attack of Bright's disease, when she had general œdema and congestion of the lungs. Her urine then contained casts and albumen. A year after this she had an easy confinement, labour lasting only two hours. The child born at this

time, during its first year was subject to frequent attacks of convulsions, the cause of which I could not discover.

In considering the pathology of puerperal eclampsia, the fact that in the great majority of cases there is albumen in the urine—a clinical observation first made by Lever in 1842—at the outset demands our attention. That I am not exaggerating the frequency with which albumen occurs in association with eclampsia will be admitted when it is borne in mind that out of all the cases of puerperal convulsions met with at Guy's Charity during the last forty years, in which the urine was examined, in only two was albumen never detected; one of these was a case of arachnitis, in the other the convulsions were preceded by severe *post partum* hæmorrhage.^a

What is the cause of this albuminuria? In reply to this question a number of different views have been put forward:—

I.—The pressure theory of Lever. According to this, the oldest view, the albuminuria is due to the passive hyperæmia of the kidneys, caused by the enlarging uterus compressing the renal veins. In favour of this explanation we have—(1) the great frequency of albuminuria in primigravidæ, in whom, owing to the rigid abdominal walls, pressure acts at a greater advantage; (2) the greater frequency of the complication when the uterus is larger than normal, either from the presence of twins or from excess of liquor amnii; (3) the frequent disappearance of the albumen after delivery. But against this view there are the following arguments:—

a. The pressure is not enough.

b. The albumen often appears (third or fourth month) at a time when the uterus is not sufficiently large to exercise any pressure on the renal veins. In reference to this question of pressure I cannot do better than quote Dr. Matthews Duncan's vigorous words:—"You would scarcely believe—yet it is quite true—that men state, as if it were a fact, that there is great pressure upon the liver and upon the kidney in pregnancy, and proceed to reason upon this, not only to found theories of disease upon it, but also plans of treatment, and all the time they have never given even the slightest good reason for believing that there is any increase of pressure. Surely the first thing in such circumstances is to demonstrate the increase of pressure, but not one of the authors

^a Galabin's Midwifery. P. 290.

I have alluded to ever seems to dream that that is the first thing. You must prove that there is pressure before you proceed to build upon it as the cause of disease, and as the basis of a line of treatment. There is no evidence, but rather to the contrary, that there is any increase of pressure upon the liver or the kidney in pregnancy. Again, if you turn to the clinical view of the matter, and regard cases of large fibrous tumours and of large ovarian dropsies, you will see nothing to confirm the belief that pressure has anything to do with producing disease of the kidneys or of the liver; for in those cases we might expect far greater pressure than in pregnancy, in consequence of the frequently far greater size of the tumours.”^a

A modification of this pressure theory was brought before the Obstetric Section of the International Medical Congress of 1881, in London, by Professor Halbertsma, of Utrecht—viz., that it is the ureters that are compressed by the uterus.^b In favour of this view it is urged—(1) that the ureters have been found dilated by the pressure of fibroids, and (2) Lohlein states in a paper that in 25 per cent. (8 out of 32 cases) of the deaths from puerperal convulsions he found dilatation of one or both ureters, and in 3 per cent. of deaths from other causes.^c

II.—Another theory is that the albuminuria depends on the circumstance that the function of the kidneys is disturbed, from the fact that they have an increased amount of work to do in eliminating the excrementitious matters of the foetus and enlarging uterus.

III. The theory of increased arterial tension has been put forward by some as the explanation of the complication. We know that in pregnancy there is an increase of the general arterial tension, and the local circulation in the renal area must be very much disturbed during labour-pains.

IV. Dr. Tyler Smith thought the albuminuria depended on alterations in the renal circulation through a reflex influence having its origin in the uterus.

Now, although some of these causes may, in certain cases, have an influence in disturbing the function of the kidneys, yet I am rather inclined to adopt the view that when puerperal convulsions

^a Clinical Lectures on the Diseases of Women (Duncan). Third Edition. Pp. 294–5.

^b Transactions of the International Medical Congress, London, 1881. Vol. IV. P. 394. Eine Hypothese über puerperale Eclampsie.

^c Deutsche med. Zeitung. 1883.

occur there is really some temporary or permanent disease of the kidneys. In support of this view let me give the following arguments:—

1. In eclampsia the condition of the urine indicates some decided interference with the function of the kidney. It often contains albumen, blood, renal epithelium, and casts. It is scanty, and at times there is a history of its having been suddenly suppressed.

2. Seven fatal cases recorded by Braun showed, on macroscopic examination, diseased kidneys; and in eight others the microscopic appearances were similar. Bourneville has given details of four fatal cases; in three there was acute tubal nephritis, in the fourth there was disease of the intertubular tissues. Dr. Angus Macdonald, in his admirable paper “On the Essential Pathology of Puerperal Eclampsia,” relates particulars of two fatal cases (examined by Professor Hamilton) in which the tubes of the kidney were blocked up by a peculiar colloid material, probably a degeneration of the epithelial cells.^a In a very able paper, read before the Berliner medizinische Gesellschaft by Professor Leyden, and since published in the *Deutsche med. Wochenschrift* for March 4, 1886, on “The Dropsy and Albuminuria of Pregnancy,” he defines the nephritis of pregnancy as a disease associated with pregnancy, and he regards the condition of the kidney as distinct from all others. He examined the kidneys of three fatal cases in which there was eclampsia associated with albuminuria, and found “the kidney large and pale, the cortex yellowish and dull. Microscopic examination showed a very extensive loading with fat, especially in the tubuli contorti—to some extent also in the glomeruli and in the Malpighian capsules. The fat was distinctly present in large drops.” When the kidneys had remained for a time in spirit the fat in great part disappeared, and then the organs, on microscopic examination, appeared to be normal; and accordingly he infers that this fatty condition is not a degeneration, but an infiltration. His view is that such morbid conditions are due to a prolonged arterial anæmia. He thinks it also explains the rapid recovery that so frequently follows delivery. Further, he regards as causes the changed conditions of pressure which affect the abdomen or the effluent urinary organs.

3. In recent years a good deal of attention has been directed to the condition of the large glands of the body met with in ordinary pregnancy. The liver and kidneys have been found to exhibit a

^a Heart Disease during Pregnancy (Macdonald). P. 241.

change in their structure, said to be analagous to cloudy swelling. This state of matters, when met with in the kidney, is probably the beginning of that condition described by Leyden, and when it occurs in the liver it is probably the first stage of acute yellow atrophy. The view is gaining ground that this parenchymatous degeneration of the liver in its early stage is the cause of the ordinary vomiting of pregnancy, while, if the changes in the liver become intensified, we have acute yellow atrophy, accompanied with the pernicious or uncontrollable vomiting of pregnancy. On the other hand, if the kidney is the organ that is specially affected, we have puerperal eclampsia. There can be no doubt that we are only beginning to discover the important bearings that changes in these two organs (liver and kidney) may have on pregnancy.

Dr. Braxton Hicks^a has advanced the view that the convulsions may cause the albuminuria, but this theory has not met with a great deal of favour. We know that albumen often occurs before the onset of the fits, and it is worth noting that albumen is not often detected after severe epileptic seizures—an argument which tells with considerable force against Dr. Hicks. Thus, in Dr. Gowers's admirable monograph on Epilepsy, he states that Dr. Beevor examined for him the urine after forty-two attacks in twenty-three patients, and in only one instance did he find a trace of albumen, and in this case, after another attack, it never could be found.^b

Believing, then, that there is some temporary change in, or permanent disease of, the kidney in cases in which eclampsia occurs, I may be fairly asked what is the relationship between the kidneys and the convulsions. Does the condition of the kidney cause the eclampsia? or, *vice versa*, does the eclampsia give rise to the kidney lesion? or, finally, are both conditions due to one primary cause? The following explanation has been put forward by Dr. Galabin:—Owing to the condition of the kidney, certain excrementitious products which should be eliminated are retained in the blood, and act as a morbid poison. This poison will affect the nerve-centres all the more easily from the circumstance that in pregnancy the whole nervous system is in a state of increased irritability. As evidence of this I need only mention such peculiar symptoms as neuralgia, salivation, nausea, fainting, dizziness, &c. But, in

^a Obstetrical Transactions. Vol. VIII.

^b Epilepsy (Gowers). P. 107.

addition to these two factors—viz., the morbid poison and the irritable nervous system—we have another equally important element—viz., the presence of a source of reflex irritation in the uterus and in labour-pains. That reflex irritation is of the greatest importance as a cause is shown by the fact that half of the cases commence during labour-pains, and that a vaginal examination may start a fit, and finally that the convulsions so often terminate with delivery. In those rare cases of eclampsia, independent of albuminuria, reflex action alone may be the cause of the attacks.

It is still doubtful what the poison is. It may be urea, or carbonate of ammonia, or more probably some intermediate product; and the poison may act through the blood-vessels, or, what is more likely, it has a direct effect on the convulsive centre in the medulla. Another explanation of eclampsia—the Traube-Rosenstein theory (so called from the two celebrated observers with whom it originated^a)—held sway for a considerable time in Germany. According to this theory the convulsions depend on cerebral anæmia, which is brought about as follows:—The blood of the pregnant woman differs from the normal state of matters in that, while it is increased in volume, it is diminished in quality, being more watery. Further, as we have explained before, the general arterial tension is increased, and there is distinct hypertrophy of the left ventricle. Consequently we have watery blood propelled under increased tension by the enlarged heart. We have, as a result, cerebral hyperæmia, which in turn causes œdema of the brain. But this transudation of serum has its limits, after which it causes (by direct compression of the blood-vessels) anæmia. If this occurs in the cerebrum there is coma, if in the medulla and pons convulsions are the result. This theory is very captivating, but unfortunately the records of autopsies show that there is no evidence of cerebral œdema in these cases; and, in the second place, if this theory was true, the more the œdema the greater should be the tendency to convulsions. Now, as a fact, it is well known that ordinary uræmic convulsions are most frequent just in those cases in which there is little or no general œdema.

We come now to what is of much greater practical importance—the treatment of this complication. I think we are all pretty well agreed that for the quieting of the convulsions there is no remedy so good as chloroform; and Barnes's rule is a safe one—to make

^a Rosenstein, *Die Pathologie und Therapie der Nierenkrankheiten*, 1870. Von Ziemssen's Cyclopædia. Vol. XV., p. 121.

no examination, not to pass the catheter, and to force no food or medicine in any case where a fit is probable until the patient is under the influence of chloroform.^a Dr. Lusk's plan is valuable—viz., after beginning with chloroform, to give per rectum half a drachm each of chloral and bromide, and to stop the anæsthetic when the effect of the other drugs becomes apparent.^b Other remedies, such as pilocarpine, amyl nitrite, nitro-glycerine, venesection, and morphine (subcutaneously), have at different times been recommended; but, in a severe case, with fits rapidly recurring, our sheet-anchor is chloroform. The question then arises—What is the best obstetric management of these cases? In some of the cases, fortunately, labour has already commenced, and then our duty is to assist it; but, if it has not begun, should we interfere? I think there can be no doubt, considering how dangerous the complication is both to mother and child, that labour should be induced so as to empty the uterus. This can best be done by emptying the bladder and rupturing the membranes. If labour goes on favourably no further assistance may be needed, but in cases of delay we can use Barnes's bags, and turn or deliver with forceps according to circumstances. In certain mild cases, if there is a wide interval between the fits, and if in this interval there is an absence of coma, some recommend the administration of purgatives, and chloral and bromide; but I think, even in those cases (recollecting that statistics show that the prognosis is worse when the convulsions arise previous to labour), we must watch the patient very narrowly, and be ready to interfere. As a rule, on delivery the fits cease; if they continue, the best line of treatment is to administer chloral and bromide.

In many cases of eclampsia the attack comes on quite suddenly, and we are summoned first when the patient is actually in a convulsion; but, in other cases, certain symptoms put us on our guard, and from their presence we should adopt a prophylactic treatment. Supposing that during pregnancy we find albumen present we should give purgatives, and keep the patient at rest and on a milk diet. Both Tarnier^c and Chantreuil^d recommend this form of diet. All nitrogenous food should be avoided, and a course of iron should be prescribed; if, however, the regular

^a *Obstetric Medicine and Surgery.* Vol. I., p. 409.

^b *The Science and Art of Midwifery.* Lusk. P. 573.

^c *Le Progrès Médical.* 1875.

^d *Leçons Cliniques.* Chantreuil. 1881.

examination of the urine shows that the amount of albumen is large and *steadily* increasing, if there are casts and œdema of the face and upper extremities, and if, in addition, any cerebral symptoms appear, then undoubtedly labour should be induced without delay. Further, if towards the end of gestation the urine becomes diminished in amount, if there is a good deal of albumen, and if to these symptoms be added the presence of headache, we should at once administer chloral, and keep a most careful watch on our patient, so as to be ready to induce labour if convulsions set in.

ART. VI.—*On the so-called Laparotomy Epidemic.* By THOMAS MORE MADDEN, M.D., F.R.C.S.E.; President of the Obstetrical Section of the Academy of Medicine in Ireland; Obstetric Physician, Mater Misericordiæ Hospital; sometime Vice-President, British Gynæcological Society; Physician to Hospital for Sick Children; Consulting Obstetrician, National Lying-in Hospital, Dublin, &c.

[*Concluded from page 9.*]

V. LAPAROTOMY IN OVARIAN AND TUBAL DISEASE.

TURNING now to the consideration of those other diseases, and more especially to the question of the pathological importance and treatment of the diseases of the uterine appendages, which are now commonly held to require operative interference, it may not be unprofitable to refer briefly to some of the earlier writers on this subject. This is, I think, the more desirable, inasmuch as—from the manner in which the attention of the profession has been recently attracted to ovarian and Fallopian tube diseases—it might be supposed that these complaints have only recently become recognised. In this respect the history of these disorders is of interest as illustrating the commonly evinced tendency in medical literature to confound new names with new facts. For it is unquestionable that inflammation, and the consequent pathological changes resulting therefrom, affecting the ovaries and Fallopian tubes were clearly recognised by the older pathologists and gynæcologists long before the more scientific names by which they are now described had been made as familiar as household words by their successors. With regard to ovarian disease this fact is, I believe, generally admitted, and hence I need not refer further

to it; but with regard to Fallopian tube disease I am not clear that this is so. The evidences of Fallopian tube disease leading to serous exudation or purulent collections therein, or, in other words, of hydro- and pyosalpinx, are recognisable clinically as well as on pathological investigation. Now, however wanting in other respects our gynæcological predecessors are supposed to have been, they do not appear at all deficient in accurate clinical observation, nor do the writings of the great pathological teachers of a former age exhibit any trace of their inability to recognise such obvious pathological changes as those under consideration, and, as a matter of fact, such cases are referred to or described by Blundell, Davis, and other practitioners, as well as by pathological writers.

Thus Morgagni, in that too-neglected treasury of pathological knowledge, his unrivalled work, "*De Sedibus et Causis Morborum per Anat. Indigatis*" (Epist. XLVI., sect. 27), describes a remarkable case of pyosalpinx. His great English rival, Dr. Baillie, in his "*Morbid Anatomy*," relates a case of hydrops tubalis, or, as we now term it, hydrosalpinx. Mason Good, in his "*Study of Medicine*," in 1829, devoted a chapter to its consideration, and refers to a case related by Munick, in which the distended tube contained a hundred and ten pints of fluid; and Dr. Blundell, in his "*Obstetric Medicine*," also refers to this subject; Harder, one in which the fluid measured one hundred and forty pints; and Cypriani another, in which it amounted to one hundred and forty pints ("*Epist. Hist. Fœtus ex Tubâ Excisi*," Leiden, 1700). Worms also describes an instance of this kind ("*Abhandl. einer ungewöhnlichen Krankheit, &c.*" Rastadt, 1785). Dr. Davis, in his "*Obstetric Medicine, 1828*" (Vol. II.), narrates a case of pyosalpinx, in which the Fallopian tube contained a pint and a half of pus. Another similar case is referred to by Portal, in which the tube was distended by eighteen pints of purulent matter.

These references are here given merely with a view of proving that, in the works of the older authorities cited, such cases are described, though in their experience their occurrence was extremely infrequent. It would, therefore, be of interest if any laparotomist would afford us some explanation of the causes of the alleged increasing frequency of the grave cases of disease of the uterine appendages, for which, in modern practice, operative measures are so often deemed expedient.

Having referred to some of the earlier writers on this subject, and as the name has been mentioned in connection therewith of Dr. Blundell, of whose kindly approval of one of my earliest publications I treasure the memento, I have again looked through his generally neglected "Principles and Practice of Obstetric Medicine," and would commend some of his observations thereon to the consideration of any who may regard him as the pioneer of modern laparotomy. In the "Physiological Researches," says Dr. Blundell, "we will find, together with some other memoirs, a paper on the subject of abdominal surgery, in which I put together the principal facts which had come to my knowledge—all concurring to prove that it is possible to lay open the abdominal cavity more or less extensively, not without danger (for that I would never assert publicly or in private), but without necessarily destroying life in the way that some of our established surgeons seemed to imagine, especially in this country. This principle has now received further corroboration from further observation on the human body; in cases in which the abdomen has been laid open more or less extensively, and where the patients have not died. . . . In obstetrics, everywhere to intermeddle is bad; in obstetrics on all occasions, our operations are an evil; and hence in this, as in every other case, it becomes us to ponder duly whether the remedy or the malady is to be regarded with greater apprehension."^a

In reference to the foregoing citations it may, perhaps, be said that the older medical literature quoted can have no bearing on the laparotomy questions of the present day. I think otherwise, for, as I have shown, the pathology and treatment of some of those diseases of uterine appendages for which laparotomy is now employed, have long ago been discussed; and if, as Dr. Johnson says, "no use is to be made of the labours of past ages, the world must always remain in the infancy of knowledge. The discoveries of every man must terminate in his own advantage, and the studies of every age be employed on questions which the past generation had discussed and determined."

Be this as it may, however, returning from former writers who have referred to this subject to the more familiar authorities of the present time, we find not only in recent medical journals, but also in modern text-books, abundant evidence that the frequent necessity or expediency of laparotomy for removal of uterine

^a Dr. James Blundell. Op. cit. P. 822.

appendages is by no means universally accepted. In proof of this, it may be noted that Sir Spencer Wells, in the last edition (1885) of his classic work "*On the Diagnosis and Treatment of Abdominal Tumours*," mentions the particulars of only four cases in which he removed the Fallopian tubes for any disease; and adds: "Considering how very frequently I have performed the operation of ovariectomy, it seems remarkable that these four cases are the only examples I have met with where either one or both Fallopian tubes have been so diseased as to require their removal." Another eminent specialist, Dr. Atthill, speaking in the last edition of his "*Clinical Lectures*" on the subject of oöphorectomy, in cases in which the mental and neurotic element predominates, says:—"As the result of my own experience, I believe the number of cases in which it is justifiable is very few, and I protest against the frequency with which it has been performed by some surgeons."

If Fallopian tubal and ovarian diseases were always prevalent in these countries, and if they can be properly treated only by the removal of the uterine appendages, it may be well asked here what became of patients so affected before the recent introduction of laparotomy operations as a rule of practice in such cases? If such patients survived these diseases without the operations now deemed essential, it is surely a strong argument, and one which I would ask the Section to weigh well against the alleged general necessity of the operations in question. If, on the other hand, such patients died largely from these Fallopian tube and ovarian diseases before the present method of dealing with them was employed, it would be as strong an argument in favour of laparotomy. Therefore, as evidence of any frequent occurrence of deaths from these causes should, probably, if forthcoming, be discoverable in our pathological museums and in the successive mortality reports of the Registrar-General, I have searched in these for proof of this, and have not yet found it in either.

In the course of my own gynæcological experience, now extending over several years, I have from time to time met with a good many cases of disease of uterine appendages. Comparatively few, however, of these were of any great pathological importance. Nor in my earlier experience as a Demonstrator of Anatomy have I encountered the evidence of such disease in the dissecting room, except in one instance of conjoint pyosalpinx and large ovarian abscess. I therefore think I am justified in the conclusion that

serious cases of tubal or ovarian disease, excepting of course cystic disease, do not appear to be commonly met with in this city in either gynæcological practice or in *post mortem* examinations.

In those cases of salpingitis and pyosalpinx which have come within my own observation, the most frequent cause of the disease was the extension of subacute inflammatory action from the uterus through the patulous Fallopian orifice after parturition. The next most frequent cause of either condition was gonorrhœal infection, and in one instance it was obviously traceable to sexual irritation. In these cases the symptoms which I regarded as characteristic of tubal disease were localised pain and tumefaction in the inguinal region, with, in chronic cases, dysmenorrhœa, congestive hypertrophy extending to the uterus, constitutional disturbance, and reflex mammary irritation. These symptoms sufficiently point out not only the seat of the disease, but also indicate the general line of treatment required.

A chief source of danger in case of inflammatory action in the uterine appendages is the risk of the products of such inflammation, whether serous or purulent, and whether ovarian or tubal, rupturing into the peritoneal cavity, and this fact has chiefly influenced the early operative treatment of the diseased appendages in such cases. It should not be altogether lost sight of, however, first, that some cases of this kind terminate by resolution without any special treatment; others are curable by purely medical treatment; and in others, again, such abscesses and exudations may burst into adjoining hollow viscera, and so escape *per vias naturales*. Of the latter fact I have had experience in cases of ovarian and parovarian abscess occurring shortly after parturition, the evacuation of the matter in this way being followed by the recovery of the patient in those cases. In my own practice I have found some cases of inflammation of the uterine appendages acute and chronic, and their consequences as amenable to treatment as other similar conditions in other parts, therefore I am at a loss to understand the incredulity expressed with regard to the possibility of treating such diseases, at least in certain instances, by purely medical measures, and fail to see the propriety of resorting, in such cases, to operative procedures and much less to operations involving such serious consequences as those now recommended, until by a fair and full trial all the less serious resources of our art have been exhausted in vain.

Sir Spencer Wells, in the last edition of his work "On the

Diagnosis and Treatment of Abdominal Tumours," 1885, p. 170, speaking of Fallopian tube disease, has put his views on this point in words which cannot be too well weighed by us. He says:—"No doubt the tube occasionally becomes the seat of gonorrhœal inflammation; but, whatever may be the experience of others, my own observation would lead me to believe that these and other cases of so-called salpingitis, or pyosalpinx, usually recover under ordinary care and rest, without surgical treatment. It would appear to me as rational to perform castration in every case of gonorrhœal orchitis, as to remove the Fallopian tubes simply because they are inflamed or the seat of suppuration."

In this connection I may remark that the preference now so generally given to surgical, or operative, over medical treatment appears to me to be, in some measure at least, regarded as the natural outcome and development of that present neglect of constitutional treatment and exclusive reliance on local measures, which I have commented on on a former occasion as one of the characteristic features of modern gynæcological practice generally.

At the same time I need hardly add that I fully recognise the importance of local treatment when really necessary in gynæcological cases, and I fully admit not only the justifiability and expediency, but also the necessity of the removal of the diseased uterine appendages in those exceptionally urgent cases of ovarian and Fallopian tube disorders in which all other less heroic measures have been fairly and vainly tried, and in which the patient's life is manifestly endangered by the course of the disease, or even, in certain cases, in which, failing the removal of the affected parts, she would be thus subjected to a life of hopeless suffering and uselessness. But I have yet to learn from my own experience that such cases are of any frequent occurrence in this city.

VI. LAPAROTOMY AND ITS ALTERNATIVES IN NEUROTIC AND CONSTITUTIONAL OVARIAN COMPLAINTS.

Dr. Batty's views with regard to the advantages of so-called "normal ovariectomy" in such cases have, in my opinion, been carried in some instances to extreme lengths on both sides of the Atlantic. Having already expressed my conviction of the advisability of endeavouring to impose some limitation to operative zeal in this direction, I may be reasonably asked what alternative treatment I would therefore suggest in those cases of this kind in which some regard the removal of the uterine appendages as the

most rational *modus medendi*? In reply to this question, even at the risk of reiterating statements and views before expressed, I may observe that the cases in which the removal of the uterine appendages has been suggested should be considered as divisible into three classes—viz., those, firstly, in which operative treatment may possibly be entirely dispensed with; secondly, those in which it is obviously essential and indispensable; and, thirdly, those in which the question as to whether local or constitutional treatment, or both, is indicated is fairly debatable. In the latter category may be included cases of ovarian hyperæmia or chronic inflammation of the uterine appendages, as well as all those obscure reflex cerebro-nervous disorders that may be associated with ovarian irritation, and in the remote causation of which the strumous diathesis is a very important though generally neglected factor. This I first pointed out several years ago, when in a former paper I called attention to the circumstance that a large proportion of patients brought under observation in my hospital practice were women of well-marked strumous diathesis, or in many instances actually suffering from scrofulous glandular disease. In such cases I have frequently been able to trace the influence of that constitutional taint in the symptoms of the local pelvic, peri-uterine, or ovarian disease for which they came under gynæcological treatment. The accuracy of this observation has been subsequently confirmed by my more extended clinical experience.

Besides struma, other constitutional taints or cachexiæ—such as gout, rheumatism, neuralgia, and secondary syphilis—must also in the same way be recognised as occasional causes of chronic ovarian diseases, as well as of the chronic uterine complaints from which these so commonly originate.

The symptoms, as well as the history of such cases, point unmistakably to the necessity of something more than merely topical treatment. In nearly every instance of this kind there is marked derangement of the general health associated with the local complaint. The patient's appetite is generally impaired, capricious or voracious; the bowels are torpid, and flatulency and nausea are seldom absent in such cases. Cardialgia, palpitation, left submammary pain, and frequent attacks of intense headache are also usually present in the majority of instances of chronic ovarian irritation and hyperplasia, and a similar connection between utero-ovarian irritation and ophthalmic disease has been pointed out by Dr. C. E. Fitzgerald.

In these cases, too, the mind generally evinces its sympathy with its tenement by the concurrence of nervous and mental disorders with ovarian as well as uterine troubles. Of the certainty of this association of reflex ovarian hysterical affections with nearly every form of gynæcological complaint, there can be no question. Thus, in one of the hospitals to which I am attached, upwards of thirty per cent. of the patients under my care, within the last eight years, suffered from some nervous derangement, which was found traceable to utero-ovarian reflex irritation, on the removal of which the secondary nervous disturbance generally subsided.

In such cases, as already observed, the ablation of the uterine appendages, or "normal ovariectomy," has, I believe, been recommended and practised. Yet I cannot but repeat that I am more and more convinced by clinical experience that under those circumstances our primary care would often be better directed to the allayment by constitutional treatment of the existing ovarian irritation or hyperplasia, of which the nervous disorder is symptomatic, rather than to the removal of the affected parts. From the same experience I have long learned that in many instances the primary local complaint, together with the reflex, or secondary, nervous consequences, may be remedied by constitutional measures, more especially by the various bromides and other nerve sedatives, by which the abnormal molecular activity of the nerve centres in hysterical cases may be allayed.

In cases of hysteria connected with ovarian amenorrhœa, ferruginous tonics, and more particularly some of the natural chalybeate waters, are obviously indicated. If the patient's circumstances admit of it, these latter should be used at their source, and thus the patient will be afforded all the conjoined advantages not only of the chalybeate, but also of that change of climate, mode of living, and occupation, which are so potent in the cure of all those nervous complaints that are so commonly associated with chronic uterine disease.

In such cases the physician must, above all, rise above a narrow gynæcological specialism. As already said, he must look to any local pelvic or ovarian trouble, but in doing this he must guard himself against the possibility of increasing the existing local hyperæsthesia by any topical treatment that may be either misdirected or which is not absolutely indispensable. He must further, in these instances, strive to act on the moral as well as on the physical constitution of his patient. He must insist on healthy

occupation of mind as well as of body, and fit the latter for this by the constitutional remedies called for by the special exigencies of each case. If the hysterical condition be consequent on disordered menstruation, this must be corrected; if it results from undue stimulation of the ovarian sexual functions, the physical and moral evils consequent on such abuses must be clearly pointed out. It has been already observed that besides the strumous diathesis various other constitutional taints frequently underlie, and are the starting-point of certain forms of chronic utero-ovarian disease, and hence the importance of the recognition and treatment of these constitutional conditions in many gynæcological cases in which topical measures are too generally exclusively relied on.

It has been already observed that no class of remedies are so useful and generally appropriate in the cases referred to as *mineral* and *thermal* waters, when employed at their sources, and thus conjoined with change of air and altered modes of living and occupation. In such complaints the most important of these are the various *iodated* and *bromated* waters, of which Wildegg and Kreuznach may be taken as examples.

Next in importance to these in this connection are *saline* and simple chalybeates—*i.e.*, Spa, Ems, and Schwalbach, Tunbridge Wells, Cheltenham, and the Stahlbrunnen of Homburg; thirdly, should be mentioned the arsenical thermal springs of Royat, Mont Dore, and St. Nectaire, and the warm “glairine” waters of St. Sauveur in the Eastern Pyrenees; and, lastly, as remedial agents of unquestionable efficacy in cases of abnormal ovarian irritation, we should here allude to those non-mineralised, or feebly mineralised, so-called plain thermal waters, of which in this country we have good specimens in Bath and Buxton, which, like Pfäfers and Schlangenbad, when properly employed in suitable cases, have a potent sedative influence in many instances of this kind, and are no less useful in cases of ovarian dysmenorrhœa, and in the protean forms of reflex cerebral disturbance consequent on ovarian hyperæsthesia and hyperæmia.

VII.—GENERAL ASPECTS OF THE LAPAROTOMY QUESTION.

In its moral, social, and economic aspects, as well as from a therapeutic point of view, the question of the increasing performance of operations for removal of the uterine appendages affords much matter for consideration.

“The *New York Medical Record* appears to think,” observes a recent writer,^a “that the laparotomists need an apology, which it proceeds to deliver in the form of the following argumentative eulogium. We suppose the sceptics will be silenced thereby:—

“‘The attempt of the New York Academy of Medicine to check the practice of spaying is evidently an ill-considered one, and is entirely antagonistic to the progressive instincts of the day. The history of the world shows that the practice in question has always been one of the crowning ornaments of the best types of civilisation, from the Chaldean to the Roman age. Now that, after many centuries of gloom, it is again brought into beneficent existence, its critics should beware of thoughtless and shallow opposition. The trouble probably lies in the fact that there still lingers an impression among crudely educated minds that the ovaries are organs of social necessity and economic importance. This, however, is a serious mistake. These organs are, it is true, useful for a short period in the existence of a portion of woman-kind for the perfunctory propagation of the race. Aside from this, however, they are not only of no service, but are a source of racial, domestic, and individual distresses of the greatest magnitude. Philosophers of the present day have ascertained several facts which place this view upon a solid and impregnable basis. No woman wants more than two children, many only one, and a large per cent., including all the unmarried, not any at all. But, in fact, the population is increasing at a seriously rapid rate, and the modern economist has had to revive and readopt the views of Malthus. In this exigency, when society’s needs are antagonised by infant multiplicity, the laparotomist steps in, as a kind of modern saviour from the threatened polypædic catastrophe. The woman has her child, the ovary swells, the learned touch of the gynæcologist detects a pyosalpinx, and in a twinkling out comes all the source of woman’s labours and man’s unsought paternities. The laparotomist is plainly society’s best friend. Like all benefactors of the race, he must endure opposition and calumny for a time; but his noble work of radically removing the sources of over-population will go on, and we calculate that, at the present rate of increase, in fifty years some thirty-five per cent. of women will be permanently relieved of all the worry of maternal anticipation.’”

Seriously speaking, the facts cannot be eliminated from conside-

^a Medical Press and Circular. June 2nd, 1886.

ration in this discussion that the ovaries are to women what the testes are to men, and that by their complete removal in either case the mutilated individual is thereby unsexed. New words will not alter old facts. And hence the more euphonious phrases by which the removal of the uterine appendages are now referred to, or the more scientific and successful method in which this is accomplished, do not render the ultimate consequences of operations for spaying, or castration of women, now less important than when such operations were more rudely performed and more tersely, if less scientifically, described. These secondary consequences are, *inter alia*, to render those on whom such procedures have been completely carried out, by the removal of both ovaries or Fallopian tubes, incapable of fulfilling what in every Christian community has been generally recognised as one of the chief functions and primary objects of woman's married life—namely, that of childbearing.

I have already expressed my belief in the occasional necessity of such operations as the only available means of saving life in certain exceptionally urgent cases. But I need hardly add that, in my opinion, even in these they should not be resorted to without absolute and well-proven necessity, or without the patient's concurrence and full knowledge of all their consequences. Moreover, in obtaining such consent, it should be borne in view, as Dr. Wigglesworth has observed, that there are "two ways of putting the nature of an operation before patients. If women were only told that by removing their ovaries they became sterile, few in these days would object; but if they were told in addition that by this operation they were completely unsexed, that sexual desire became feebler, that in a few years their voices would change, and become somewhat masculine, and that in time the face would become 'hairy' like a man—in fact, that a change would ensue somewhat similar to that which takes place in the larger animals after spaying, not one woman in fifty would consent to the operation, except it became a matter of life or death."^a

It may, perhaps, be held that one who brings forward no statistics of his own to controvert the great amount of statistical evidence which has been elsewhere published to demonstrate the utility and safety of the free removal of the uterine appendages in large numbers of cases, is not entitled to question the expediency of adopting such operations generally. I cannot, however,

^a Medical Press and Circular. Feb. 24th, 1885.

acquiesce in this view, as I regard this subject one to be considered on broad principles. I have not questioned either the accuracy of these statistics, or the fact that the uterine appendages may be removed with as much safety by a skilful operator as might follow his removal of the mammary gland in a similarly large number of cases. But I do not see that such results, however successful, *per se* prove the general necessity or expediency of adopting such operations in other instances of the same kind, without reference to the special circumstances of each individual case.

In conclusion, I shall merely reiterate the hope that the practical importance of the subjects included within the scope of this communication, to only a few of the more salient of which have I been able even to glance in the course of the present hurriedly prepared paper, may induce discussion thereon, and thus assist in ascertaining to what extent, and with what limitations, the operations referred to should, in the opinion of the Irish Academy of Medicine, be here adopted or avoided.

THE TREATMENT OF DISORDERS OF THE STOMACH.

1. *Dyspepsia*.—Causes of Functional Indigestion: (1) Eating too rapidly; (2) drinking too much water at meal time; (3) improper food; (4) want of exercise; (5) too much tea and coffee; (6) too much tobacco. Treatment: Underdone meats and but little bread. No sweets. Pepsin sacch., gr. 5, at each meal. The mineral acids before meals, as muriatic, nitro-muriatic, or phosphoric. Certain bitters, as nux vomica and strychnine combined with gentian or calumba. An alkali a few hours after meals when there is great acidity, but should not be used too frequently. 2. *Dilatation of the Stomach*.—Treatment: Dry, solid food; underdone meats; no milk. Carbolic acid to allay fermentation. Wash out stomach occasionally. Strychnine, hypodermically or by mouth. 3. *Chronic Gastritis*.—Treatment: Cause to be removed. A scanty supply of food. Pepsin at each meal (gr. 5). Milk, with a little meat, may be taken as food. Oxide of silver, gr. $\frac{1}{2}$ a dose, will be found of value. Bismuth is useful. Avoid tonics, but use the mineral waters to keep portal system drained. 4. *Gastric Pain (Gastralgia)*.—Treatment: Diet of little importance; stimulus at meals in small amounts. Morphine relieves at once, but use it carefully. (1) Bismuth, with a little opium; (2) nitro-muriatic acid, gtt. ij.-iiij., diluted; or (3) Morph. sulph., gr. $\frac{1}{32}$; acid. carbolic, gt. j.; aq. menth. pip. ad f 3 j., ter die; (4) Fowler's solution, beginning with gt. j. and increase to gtt. v., ter die.—DR. DA COSTA, in *Coll. and Clin. Record*, and *Med. Record*.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

RECENT WORKS ON OPHTHALMOLOGY.

1. *The Optical Manual, or Handbook of Instructions for the Guidance of Surgeons in testing the range and quality of Vision of Recruits and others seeking employment in the Military Services of Great Britain, and in distinguishing and dealing with Optical Defects among the Officers and Men already engaged in them.* By SURGEON-GENERAL J. LONGMORE, C.B. 8vo. Pp. 184. Third Edition.
2. *The Refraction of the Eye, a Manual for Students.* By GUSTAVUS HARTRIDGE, F.R.C.S. 8vo. Pp. 228. London: J. & A. Churchill. Second Edition.
3. *Notes of Medical Experiences in India, principally with reference to Diseases of the Eye.* By S. E. MAUNSELL, L.R.C.S.I., Surg. Maj. 8vo. Pp. 115. London: H. K. Lewis. 1885.

1. SURGEON-GENERAL LONGMORE'S work is one, the comprehensive title of which is calculated to attract the attention of all army surgeons, as well as of all those before whom candidates for the services have to appear for physical examination.

The volume, though small and very cheap—only eighteen pence—contains an immense quantity of information, for the most part well and clearly stated. The type is, however, small, and horribly close, and likely to discourage any lengthened perusal of its pages; and we are surprised to find, in the present day, when so much attention has been bestowed upon the subject of the causation of myopia, a treatise of this sort presented in so unsanitary a form.

The author, in his preface, says "the present edition has had to be less revised than re-written;" we regret that when re-writing it he did not avoid more of the errors contained in the previous editions, as he has inserted some fresh ones in this. In the chapter on keratotomy there is a notable want of accuracy, and the words "disc" and "intra-papillary disc" are used in a

confusing way to express the illuminated space on the retina. He advocates "a concave mirror whose principal focus is at a distance of from one foot to eighteen inches;" and "the eye of the patient," he says, "should be so turned that the light neither falls on the macula lutea nor on the optic papilla, but to the *inner side of both*"; such a direction, if followed, would vitiate the results entirely. The following passages, copied from the same chapter, will suffice to show the want of unity of opinion as to the facts of keratotomy (page 77, line 12 from top):—"It follows, therefore, that it is in the *lower degrees* of ametropia, where there is least diffusion, that the *most defined shadows* are presented to view, and *vice versa*, that in the *higher degrees of ametropia* the shadows are *less marked* in character and outline" (the italics are ours). Page 79, line 9 from bottom—"In hypermetropia, the saturation and definition of the shadows are *increased in proportion to the increase in degree of H*; in myopia the definition and depth of the shadow also vary according to its degree. With *M higher than 1 D*, the image of the illuminated portion of the fundus and *the shadow is well marked*; with *M lower than 1 D*, the shadow is wanting in distinctness and saturation."

It is needless to state that the former of these is the correct statement.

At page 111 he falls into the error of supposing that "the smallest object that can be seen by the average normal eye" is "a plain rectangular object" which "subtends a visual angle of one minute." This is entirely not so. What he intends to express is that a complex figure, such as a letter, must, in order to be clearly seen, have such a size that each of the lines composing it are separated from the others by an interval subtending an angle of not less than one minute at the nodal point of the eye.

Images much smaller than he supposes can be seen by the retina, but if two such lie together at a less distance from each other than one minute they will make only one mental impression, and cannot be recognised as two distinct objects.

At page 121 he uses "hemeralopia" to express night blindness, and "nyctalopia" day blindness. In this he dissents from the more correct modern nomenclature. In the former case, too, no mention is made of xerophthalmia occurring in connection with night blindness, though the author regrets that there was no means of discovering malingerers.

At page 123 he makes "scotomes" the plural of "scotoma," and

wholly omits all mention of *negative* scotomata; though while speaking of what must be *negative*, he describes the *positive* scotomata, for he says—"A *dark* spot or spots appear in ordinary vision, corresponding with the portions of the retina that have *lost sensibility to light*." It is an offence to publish a book containing nothing original when that book contains mistakes so transparent as some of those we have pointed out, and which any ophthalmologist would have at once detected on reading the proofs.

2. Two years ago we had to criticise most severely the first edition of Mr. Hartridge's book, which was then so full of errors. We are glad to find that the author has made what he calls in the preface "a few necessary corrections;" they have greatly diminished our dislike to the book, which may now be ranked as fairly free from obvious errors. At page 37 and following he retains an error to which we called attention before—viz., the use of the sign ∞ in place of $\frac{1}{\infty}$ when expressing the convergence for infinite distance. At page 46 he says "the smallest retinal image that can be perceived at the macula corresponds to a visual angle of 1', so that two stars separated by an angular interval of 1' would produce upon the eye the effect of one star only." This is true, not because the retina cannot perceive so small an image, but because the distance *between* the images is so small that the sensations are combined; were the stars further apart they would be perceived as separate impressions.

On the whole, however, the book is now a very readable one, and may supply a want.

3. Mr. Maunsell's delightful little book is much more a narrative of the writer's life in the Umballa District and Cashmere than a medical treatise, and whilst giving his medical experiences in a sufficiently readable way he fails not to give glimpses of life in India outside the hospital bungalow that are full of freshness and reality.

The style all through is simple and free from pedantry, and whilst showing up the native eyeman's malpractice he does not claim quite 100 per cent. successes for himself.

At the end of the book he has placed, in tabular form, the results of 232 cataracts operated on by him. We confess ourselves full of astonishment at the enormous number of cases in which vision of $\frac{2}{20}$ was registered, as in these countries such perfection

is comparatively rare, even with all the help that well-made spherical and cylindrical glasses can afford, whilst the author had to buy his glasses by the score from an optician who had no means of suiting each individual case, but seems to have supplied all with the same strength. We can, however, find an explanation in the following sentences. He says:—"Test objects and figures were extemporised to resemble as closely as possible the type in ordinary use, and which answered for natives who could not read almost as well as those of Snellen." Again, "the majority of the patients were of a class who were unable to read." It is a pity that he has ventured to express in a mathematically accurate way results arrived at by so entirely unmathematical and inaccurate means; and this it is of importance to note, lest those who read his results should lose courage and hide their faces for very shame when comparing their results, obtained with all the appliances and means to boot of modern perfection in these countries, with the rough and ready surgery which Surgeon-Major Maunsell practised in India. The book is, however, one which we strongly recommend as of considerable interest to all those who have had or may have to undergo similar experiences in the vast continent of India.

RECENT WORKS ON MATERIA MEDICA AND THERAPEUTICS.

1. *Materia Medica : a Manual for the Use of Students.* By ISAMBARD OWEN, M.D. F.R.C.P.; Assistant-Physician and Lecturer on Materia Medica to St. George's Hospital, &c. Second edition. London : J. & A. Churchill. 1886. Pp. 228.
2. *A Guide to the New Pharmacopœia* (1885). By PROSSER JAMES, M.D. London : J. & A. Churchill. 1885. Pp. 108.
3. *Notes on Inorganic Materia Medica and its Chemistry.* By J. SCHÜTZ SHARMAN. London : E. Wilson. 1885. Pp. 56.
4. *Veterinary Pharmacology and Therapeutics.* By J. B. GRESWELL. London : H. K. Lewis. 1885.

1. DR. ISAMBARD OWEN'S book is a well-arranged and accurate student's manual, of the first edition of which we had the pleasure, some three years ago, of speaking in merited praise. It has, of course, been revised in accordance with the new edition of the Pharmacopœia, and contains a new chapter on the general medi-

cinal uses of the official drugs. Students preparing for examination in *Materia Medica* will find it a most useful and reliable help.

2. Our readers will find Dr. James's little book a welcome guide to the changes that have been made in the B. P. The recent additions are discussed under the headings of:—New official acids: alcohols and other carbon compounds: changes in the inorganic and organic preparations: new active principles and plants, and new organic preparations. The information is concisely put, and the therapeutical comments are instructive.

3. Mr. Sharman's "Notes" are an inaccurate and useless collection of formulæ diluted by a few explanatory (?) remarks. We cannot imagine anyone, even for examination purposes, profiting by such a bald assemblage of symbols.

4. Without pretending to any critical knowledge of veterinary medicine or therapeutics, we believe that Mr. Greswell's little work is likely to be of service to those who have to treat diseases of the lower animals. The drugs are arranged alphabetically, their properties described, chiefly on the basis of Martindale and Westcott's "Extra Pharmacopœia," and their therapeutical uses are clearly indicated. At the end of the book is a useful therapeutic index of diseases and symptoms. A curiously heroic remedy is mentioned for "roaring" in horses—viz., *removal of the left arytenoid cartilage*. (Günther.) !!

Surgical Diseases of the Kidney. By HENRY MORRIS, M.A., F.R.C.S. London: Cassell and Company.

THIS book is one of the series now being published by Messrs. Cassell. The selection of Mr. Henry Morris to do this important work was a happy one, for there are few writers who do greater justice to the subject on which they happen to write. Moreover, he has had considerable experience in the special branch to which the book refers; and he has availed himself of the experience of others so fully, that the monograph is a valuable history of all that is at present known on the subject. It is yet another proof of the great advance which surgery has made within a few years the kidney, now so often remediable by the interference of the operator that a volume should be devoted to the surgical diseases of operator.

The book is chiefly made up of an account of the various mal-

formations and diseases of the kidneys in their surgical aspects; and only a few pages are given to a description of operations. But the surgeon who has to deal with such cases will find here all that is necessary for his guidance in treatment. Indeed, so far we do not know of any work to compare with it.

Questions on Magnetism and Electricity. By F. W. LEVANDER.
Second Edition. London: H. K. Lewis. 1885.

STUDENTS preparing for examination may perhaps find this collection of problems with their solutions a useful mental gymnasium, if used with caution. It includes a progressive arrangement of the questions on magnetism and electricity set at the scientific examinations of some of the leading institutions in the United Kingdom, and concludes with a collection of miscellaneous questions for practice.

The Suprapubic Operation of Opening the Bladder for the Stone, and for Tumours. By SIR HENRY THOMPSON, F.R.C.S.Eng.
London: J. & A. Churchill, 11 New Burlington-street.

A SHORT time ago we read in a report of a discussion in the New York Academy of Medicine the expression of an opinion that the suprapubic operation would soon become *the* procedure for removing stone from the bladder. The author of this book lends some weight to that view. Not, indeed, that he would recommend it in all cases; yet he goes a long way when he observes:—"I will add that it is my belief that in the hands of most operating surgeons this proceeding will prove a safer and a far easier one than lithotrity, with all its advantages, for hard stones when they have arrived at about $1\frac{1}{2}$ to 2 ozs. in weight." Thus, an operation which appears to have been first performed in 1556—more than three centuries ago—which has rarely been done since except under very special circumstances, seems likely to force itself into general acceptance. Sir Henry Thompson is, at all events, a progressive surgeon. We remember his denunciation of litholapaxy and his subsequent unreserved adoption of it; and we have a further proof of progress in the praise which he gives to the operation under consideration as compared with the exclusive adoption of any of the perinæal methods. At the time this book was published the author had done eight cases within a year, with one death—that

untoward result not apparently being attributable to the form of operation. Three patients were aged 76, 73, and 73 respectively—and all recovered. In one of these cases the stone weighed 14 ounces, with a circumference of 12 in. It was $4\frac{1}{2}$ inches long. Of course, such a mass as this could not have been removed otherwise in one piece, and we doubt if the stone could have been removed by any lithotripsy proceeding without doing irreparable damage to the bladder. It does not appear that we have reached finality in litholapaxy. There are surgeons who distrust it, and who have always an unpleasant feeling that the most careful washing out has not removed every particle from the vesical cavity; and there are many surgeons who, if themselves the subject of stone, would prefer the definiteness of cutting to the uncertainties of lithotripsy. To all these it will be satisfactory to know, from so high an authority as Sir H. Thompson, that the suprapubic operation is a safe one, and is more likely to be successful in unskilled hands than is any non-cutting operation.

The directions here given are very simple and plain. The rectum is cleared out, and an India-rubber bag, capable of holding 12 or 14 ounces of water, is introduced. This is the device of Petersen, of Kiel. Six or eight ounces of a mild antiseptic fluid are introduced into the bladder, and the rectal bag is then filled. The effect is to raise the bladder well out of the pelvis, and so to leave a considerable space in the suprapubic region free from the peritoneum. The bladder is slowly cut down upon above the pubes, the veins are pushed aside, and the removal of the fat from the front of the bladder is effected by the finger-nail or an ivory scraper. The blade is then secured by a hook, and an incision made to admit the forefinger. Finally, the stone may be removed by forceps or the two forefingers. A tube is left in the bladder, and another is introduced by the urethra, and both are left for one or two days. The patient is allowed to rest on each side alternately for six hours, and there is free escape of urine without infiltration.

It may be mentioned that Mr. Annandale has operated by the suprapubic method for a small calculus in a child. The stone was seized by a lithotrite, and the instrument was then made to press against the bladder wall above the pubes. A wound an inch long was sufficient for the extraction of the stone, and the patient was running about on the tenth day.

We have no doubt that the method recommended by Sir H.

Thompson will soon be tested by many surgeons, and we are not quite sure that we are not nearer to the fulfilment of our American friend's prophecy than might at first sight be thought likely.

A Guide to the Examination of the Urine. By J. WICKHAM LEGG, M.D. Sixth Edition. London: H. K. Lewis. 1885. Pp. 120.

THIS little book maintains a popularity which it justly deserves, and the present edition has been carefully revised. It conveys the sort of information which a practitioner really requires, and is, as a rule, accurate in its statements. But a not uncommon slip is made in giving *calcic chloride* as one of the reagents used in Jaffé's test for indican in urine. Surely it is inexcusable to confuse chloride of calcium with chloride of lime. Has Dr. Legg ever tried the test? Indeed, the remarks on the subject of urinary pigments are feeble, and scarcely abreast even with the scanty knowledge we possess of these bodies. The next edition would be all the better if a table of contents were prefixed.

Acne: Its Etiology, Pathology, and Treatment. By L. DUNCAN BULKLEY, M.D. London: J. & A. Churchill. 1885.

ANOTHER monograph from Dr. Bulkley's prolific pen—280 large octavo pages devoted to the discussion of a single cutaneous affection. As might be expected, from the wide experience of the author, his remarks on treatment are full and detailed, and great stress is laid upon diet and hygiene in the management of this troublesome affection. A large number of formulæ for various external applications, &c., is appended, from which the practitioner may readily cull what he requires, or may gain suggestions for other combinations of remedies.

On Bedside Urine-Testing. By G. OLIVER, M.D., Lond. Third Edition. London: H. K. Lewis. 1885.

THIS edition exceeds the previous one by 132 pages, so that, unless care be taken with the future editions, the book will soon dilate beyond the compass of a pocket companion, for which it was intended. Much credit is due to Dr. Oliver for the ingenuity and industry he has exhibited in devising and perfecting the method of examining urine by test-papers—*i.e.*, papers impregnated with a definite

amount of the reagent; and he has undoubtedly succeeded in attracting attention to the highly important and yet somewhat neglected subject of routine examination of every patient's urine. Within a short time three editions of his book have been called for, and in the present issue several additional topics are discussed and a good deal of interesting matter has been incorporated. One of the novelties is a method for detection of bile-salts in urine by precipitation with an acidulated solution of peptone.

The Student's Manual of Venereal Diseases. By BERKELEY HILL, Professor of Clinical Surgery in University College, London; and AUSTIN COOPER, Surgeon to the Westminster General Dispensary. Fourth Edition. London: H. K. Lewis. 1886. 8vo. Pp. 118.

No material change has been made in this, the fourth edition, of an excellent little work which has more than once received a favourable notice in our pages.

The authors begin with the statement that venereal diseases are three—syphilis, chancre, and gonorrhœa. They adopt the dualist view—applying the term *chancre* solely to the local contagious venereal ulcer, while the term *syphilis* is used only when speaking of the general constitutional disease. The formulæ at the end of the book will be found of great service; and, in a word, the work is worthy of all praise as a concise and reliable epitome.

Hospital Sisters and their Duties. By EVA C. E. LÜCKES, Matron to the London Hospital. London: J. & A. Churchill. 1886. 8vo. Pp. 164.

SOUND, practical, common sense characterises this valuable contribution to the literature of nursing. Let the reader notice that Miss Lückes is not “Lady Superintendent,” but “Matron,” to the London Hospital. To our mind this renunciation of the more pretentious title bespeaks additional attention to what the authoress has to say. The subject upon which she writes is evidently her life-work, and every page of the book testifies to her experience of its minutest and most varied details.

The principal topics dealt with are the qualifications required of head nurses, or, as they are now generally termed, “hospital

sisters," the domestic management of wards, the supervision of wardmaids, the relationship of "sisters" and their staff nurses, the training of probationers, the relationship of "sisters" to their patients, and night sisters.

The earnest tone which pervades the book, the absence of all striving after effect in the calm, unimpassioned diction which Miss Lückes employs, must strike the reader with something like surprise in this latter-day age of book-making.

The closing words are well worth quoting:—

"I cannot wholly conclude," writes Miss Lückes, "without a tribute of heartfelt admiration to some of the earnest women with whom it has been and is my privilege to be associated in hospital work. My convictions of the noble possibilities which this hospital life contains have been strengthened by the results in their personal characters. I owe them the inestimable service of having my best hopes practically realised as to the capabilities of women for doing their *own* work in the world without injury to their special characteristics. It only remains for others to follow in their steps."

Transactions of the Willan Society of London. Vol. I. Edited by JAMES STARTIN. London: Harrison & Sons. 1885.

THIS society was constituted in November, 1883, under the auspices of Mr. James Startin and the staff of St. John's Hospital for Diseases of the Skin, to promote the study of dermatology and syphilis. It gives one the impression of being started as a rival to the Dermatological Society of London, but if we may judge, on the one hand, from the names of the officers and members of the society; and, on the other hand, from the style of the communications brought forward at the meetings, the Willan Society will not prove a very formidable rival.

Mr. Milton, Mr. Startin, and Dr. Tom Robinson appear to be the leading spirits in reading papers and in conducting the discussions. There is nothing of interest in any of the communications, and the *Transactions* can scarcely be reckoned a useful addition to the literature of Dermatology.

PART III.

HALF-YEARLY REPORTS.

REPORT ON MATERIA MEDICA AND THERAPEUTICS.^a

By WALTER G. SMITH, M.D., Univ. Dubl.; Fellow and Examiner
K. & Q.C.P.I.; Physician to Sir Patrick Dun's Hospital; King's
Professor of Materia Medica, School of Physic, Trin. Coll. Dubl.

Treatment of Asthma by Pyridine.—M. Germain Sée, in a communication to the *Academie des Sciences* on pyridine, states that neither subcutaneous injection of pyridine salts, nor smoking cigarettes of pure pyridine, offered the same advantages in asthma as the practice of administering it by inhalation. Four or five grammes are poured on to a plate, which is placed in a closed room containing rather less than twenty-five cubic metres of air. The patient, in the room, breathes the air impregnated with pyridine. This treatment should be repeated, for about twenty minutes, three times a day. Pyridine can be traced in the urine almost immediately after the commencement of an inhalation. According to Dr. Germain Sée, hypodermic injection and pyridine cigarettes provoke nervous disturbance. Inhalation produces a beneficial effect; the feeling of oppression common among asthmatic patients being relieved, breathing becomes easier, and they have no longer the characteristic intense longing for fresh air. The sensibility of the pneumogastric nerve and the excitability of the medulla are considerably diminished, and the heart's action becomes normal. It frequently happens that the patients fall asleep after the inhalations. This sleep is almost normal, and is not accompanied by profound insensibility, and is, therefore, different from that provoked by anæsthetics. While it lasts, sensations, followed by

^a The author of this Report, desirous that no contribution to the subjects of Materia Medica and Therapeutics should remain unnoticed, will be glad to receive any publications which treat of them. If sent to the correspondents of the Journal they will be forwarded.

reflex phenomena, are provoked with difficulty, although contractile energy is maintained. The administration of pyridine is not followed by either paralysis, convulsions, or tremors; but the muscles are relaxed, and temporarily lose their tonicity, in consequence of the lessened sensibility of the medulla oblongata and spinal cord. This modification of reflex sensibility is the special characteristic of pyridine, as distinguished from substances like nicotine and atropine. All the patients to whom Dr. Sée administered pyridine had quiet nights, though previously tormented with violent fits of coughing and intense oppression. The physical pulmonary symptoms all showed improvement. Pyridine does not affect the general health. When the suffocating asthmatic fits reappear after inhalations for nine or ten days, Dr. Sée recommends the administration of iodides. He has treated fourteen patients, nine of whom were asthmatic, and five subject to cardiac disease; they were all relieved. Dr. Sée concludes that pyridine is preferable to hypodermic injection of morphine.—*Med. and Surg. Reporter*, 1885.

Antiseptics.—The claim of possessing antiseptic properties 10 or 15 times greater than those of carbolic acid, and of being second in this respect only to corrosive sublimate, whilst the substance is at the same time non-poisonous, non-irritant, and non-corrosive, is put forward by Dr. Fowler, of New York, on behalf of "hydronaphthol," a compound described as belonging to the aromatic series, and bearing the same relation to the hypothetical radical naphthyl as carbolic acid does to phenyl (*Pharm. Record*, Dec. 1, 1885, p. 401). Although it is claimed to be so powerful an antiseptic, it is admitted that it is ineffective as a germicide and disinfectant, and that therefore it cannot be relied on for the destruction of already existing germs. On the other hand, a saturated aqueous solution, which would contain only one part of hydronaphthol in one thousand, is alleged to be perfect in its inhibitory action, and to preserve animal tissues and liquids perfectly for an indefinite time, although producing no other perceptible effect upon living tissue than coating it with a slight film. Hydronaphthol is described as having a slight aromatic taste and odour, and crystallising in "scale-like clinorhomboid laminæ of a silvery white or greyish hue;" as sparingly soluble in water, but dissolving freely in alcohol, ether, chloroform, glycerine, benzol, and the fixed oils; and as not volatile at ordinary temperatures, though subliming at

about 90° C. Triturated with fifty times its weight of carbonate of magnesia, or a silicious earth, it forms a powder which is said to present advantages over iodoform for use in surgical operations. Absorbent gauze and similar dressings of hydronaphthol may be prepared by immersing the materials in an alcoholic or benzol solution. Further, it is claimed that hydronaphthol is not decomposed or rendered inert by contact with organic matter or the products of putrefaction.

As a true germicide or disinfectant, the same authority recommends potassio-mercuric iodide, which is said to be four or five times more powerful in this respect than mercuric chloride, and effective for this purpose in aqueous solution containing only one part in twelve thousand. This compound may be prepared by simply dissolving equal quantities of mercuric iodide and potassium iodide in distilled water, the solution upon evaporation yielding the compound in yellow needles.

Acetate of aluminium is strongly recommended as an antiseptic and deodorant by Dr. A. Rose, of New York (*Therapeutic Gazette*, Dec., p. 724). He points out that, although Burow called attention to its value in 1857, and used it to destroy the disagreeable odour of gangrenous and ulcerated wounds, and the conclusions he arrived at have since been confirmed by Prof. Bruns, yet Professor Billroth, while acknowledging its value as an antiseptic to be probably equal to that of carbolic acid, ignores its power as a deodorant. The neglect of this valuable antiseptic has, Dr. Rose believes, arisen from the fact that it is difficult to prepare a neutral solution, or even one useful for medical practice, at a cheap rate, and partly also because the knowledge of some of the results obtained from it was long kept as secret as possible in the interests of sugar refiners, who used it for deodorising the blood used in the purification of sugar. Dr. Rose quotes Dr. Bruns' statement that, during the twenty years in which he had treated wounds with the acetate, he had not seen a single death from pyæmia, even under the most disadvantageous conditions. The value of the acetate for embalming was made known as long ago as 1827, by Gammal. Dr. Rose recommends the following method of preparing the acetate for medical purposes:—Ten parts of sulphate of aluminium are dissolved in the least possible quantity of hot water, and 17 parts of crystallised acetate of lead are added, also dissolved in hot water. The two solutions are then mixed. The sulphate of lead is allowed to settle, and the decanted supernatant liquid is treated with

hydrogen sulphide, and after filtration to remove the lead, it is warmed until the odour of the gas is driven off. The liquid is then diluted until it measures 48 parts. One ounce of the liquid should then contain a drachm of anhydrous acetate of aluminium. Thus prepared it has a specific gravity of 1.0392. It can be obtained in the form of scales soluble in water in the same way as other scaled preparations. A 2 per cent. solution is said to be sufficient to permanently protect organic substances from putrefaction, and for purposes of irrigation a 1 or $\frac{1}{2}$ per cent. solution is used.—*Pharm. Journ.*

Lanolin.—On a recent occasion Professor Liebreich brought before the Berlin Medical Society the subject of fats generally, which he defined as bodies capable of saponification, and specially that of cholesterin fats or ether-like compounds of certain fatty acids with cholesterin. He stated that he had found cholesterin fat to be much more widely diffused in animal organisms than had been supposed, and to be invariably present in what he called “keratin-tissue”—*i.e.*, hair, bristles, feathers, horn, &c. From these substances he had extracted it with chloroform, and then had identified it by dissolving the fat in acetic anhydride and adding strong sulphuric acid, which produced a splendid green colour. So constantly were these substances associated that he came to the conclusion that the formation of cholesterin fat is a function of keratin-tissue itself (*Pharm. Zeit.*, Nov. 4, 1885, p. 842). The most abundant source of cholesterin fat is “suint,” or the fat of sheeps’ wool, and the occasion of the communication was to bring under notice of the medical profession a new fatty basis for external applications, derived from this source, which has been brought out commercially under the name of “lanolin.” This substance is described as an intimate mixture of purified wool fat with 30 per cent. of water, yellowish white in colour, and of the consistence of a stiff ointment. It will readily take up its own weight of water, and then forms a workable mass of the consistence of an ointment. If rubbed up with a larger quantity of water and a small quantity of soda added, it forms an elegant milk-like emulsion of unlimited permanence. But the most important property claimed for lanolin is the readiness with which it is absorbed by the skin. It is stated (*Pharm. Centralb.*, Nov. 5, 1885, p. 534) that a small quantity of an ointment containing one part of mercuric chloride to one thousand parts of lanolin, rubbed into the

scalp produced a metallic taste in the mouth in a few minutes.—(*Pharm. Journ.*).

A paper was published recently in the *Chemist and Druggist* by Mr. Maben, in which it was stated that Dr. Truman had had excellent results from lanolin, while another authority, Dr. Allan Jamieson, of Edinburgh, was not quite decided about the matter.

The reporter has used lanolin fat in more than seventy cases of cutaneous diseases, and thinks favourably of it as a vehicle. For chapped hands lanolin is an extremely satisfactory application, often effecting a cure with one inunction.—(*Brit. Med. Journ.*, June 12, 1886). In a recent note (*Brit. Med. Jour.*, July 17, 1886) Professor Liebreich states that “lanolinum purissimum” is now produced which has exactly the consistence that is necessary for ointments, and which does not require the addition of lard or other fat. This purified lanolin is well suited for massage.

[To be concluded.]

AN ANTISEPTIC DENTIFRICE.

DR. A. D. MACGREGOR, of Kirkcaldy, writes in the *Brit. Med. Journal* of July 10, 1886, as follows:—“Few medical men, I suppose, have ever given a prescription for a tooth-powder (such a matter is beneath their notice), and the selection of the ingredients for the various powders and pastes in vogue for the purpose of beautifying and cleansing the teeth is left entirely in the hands of those who certainly should not know better than medical men. I have frequently trespassed on this debatable ground, and recommended a particular dentifrice. In view of the extremely important part the teeth play in the economy of life, I never hesitate occasionally to inquire as to the attention they receive. A tooth-powder should possess certain characteristics; it should be antiseptic, cooling, agreeable to taste and smell, and have no injurious action on the teeth. After use, it should leave the teeth white, and a sensation of freshness and cleanliness in the mouth. As an antiseptic in this connection, nothing can displace boric acid. For years I have used the following powder, and can recommend it:—Boric acid, finely powdered, 40 grs.; chlorate of potassium, 30 grs.; powdered guaiacum, 20 grs.; prepared chalk, 60 grs.; powdered carbonate of magnesium, to ʒi; otto of roses, half a drop. The boric acid in solution gets between the teeth and the edges of the gums, and there it discharges its antiseptic functions, the chlorate and guaiacum contribute their quota to the benefit of the gums and mucous membrane generally; the chalk is the insoluble powder to detach the particles of tartar which may be present, and the magnesia the more soluble soft powder which cannot harm the softest enamel.”

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ACADEMY OF MEDICINE IN IRELAND.

President—ROBERT M'DONNELL, M.D., F.R.S.

General Secretary—W. THOMSON, M.D.

SURGICAL SECTION.

President—SIR CHARLES A. CAMERON, M.D., President of the Royal College of Surgeons, Ireland.

Sectional Secretary—WILLIAM STOKES, F.R.C.S.I.

Friday, March 19, 1886.

MR. COLLES in the Chair.

Bone Drainage in the Treatment of the Early Stages of Hip Disease.

MR. STOKES read a paper on bone drainage in the treatment of hip disease in its early stages. The author commenced by alluding to the fact that hip excision is not maintaining the position in surgical estimation that other joint resections occupy, which he believed to be due to a twofold cause—1st, the rarity of the cases in which the disease is sufficiently limited to enable the disease to be completely removed; and 2nd, the difficulty of maintaining fixation of the limb after the operation. He pointed out how very disheartening the statistics of the operation are, as shown by Dr. Yale and many German operators of eminence. He also showed that the results of the cases treated by methodical expectation, especially where suppuration in the joint occurs, are hardly more encouraging, and quoted Hueter's opinion that suppuration in the hip-joint is a "nearly absolutely fatal process." The principles of treatment that, as a rule, are mainly relied on were then discussed, and shown to be too frequently unsatisfactory. The author then discussed the views of Sir B. Brodie and others as to the pathology of the early changes in scrofulous hip disease, and inclined to the opinion that those held by that distinguished surgeon were correct—viz., that in the great majority of

instances the primary changes consisted in an inflammation in the cancellous tissue of the bone, the result usually of a traumatism. The views of other surgeons and pathologists were then mentioned, notably those of Mr. Cooper Foster, Mr. E. Owen, and Mr. Hilton. Assuming that Sir B. Brodie's views were correct, the author drew attention to the desirability of giving an early exit to the inflammatory exudations in the cancellated tissue of the bone, and thought that could be best done by the manner recommended originally by Mr. Kirkpatrick—viz., by perforating the bone and freely applying potassa \bar{c} calce along the tract of the wound of both the soft and osseous structures. In illustration of the advantages to be derived from this line of treatment, the author gave the details of three cases in which he employed it, and in which the results were very encouraging.

Some Points in the Treatment of Morbus Coxæ.

PROF. THORNLEY STOKER read a paper advocating the employment of bone drainage by trephining the trochanter as a treatment in cases of morbus coxæ of the femoral variety. [It will be found in the May Number of this Journal, Vol. LXXXI., page 385.]

The CHAIRMAN said the method which Mr. Stokes and Mr. Stoker advocated seemed to be very effectual for removing disease of the hip-joint. That it originated with Dr. Kirkpatrick, of Dublin, was creditable to Irish surgery. He used it more for caries of the bone than for disease of the joint. Dr. O'Byrne had treated such cases in the early stage with hydrargyrum cum cretâ, which was now recognised as an antiseptic. Beyond that stage the operation for drainage offered a fair chance.

MR. CROLY recalled a paper which he heard read by Dr. Kirkpatrick on the treatment of joints by caustic, and said he saw some interesting cases thus treated by him in the North Dublin Union Workhouse Hospital, while for many years since he had himself been in the habit of using potassa caustica for disease of the metacarpal bones and of the small bones of the foot, as the scaphoid, the cuboid, and cuneiform, with very successful results. In disease recurring after excision of the elbow he saw extraordinary results from boring with potassa caustica. On Tuesday, 16th instant, in the City of Dublin Hospital he bored the trochanter in a child for all the symptoms of morbus coxæ, cutting down on the trochanter and boring with potassa caustica, making a funnel-shaped opening. That morning the child said she was free from pain. His experience led him to conclude that the caustic potash had more influence in relieving the pain and tension than the use of either the knife or the trephine. Although he had failed to see the pus, he had not failed to cure the patient. There was no case he disliked so much

as that of a child lying a year in bed, with weight and pulley and water-cushions, receiving good diet and cod-liver oil, and yet at the end the child might get up no better; but with the boring process the result promised to be different, and surgeons would not dislike meeting a case of morbus coxæ at the proper stage, cutting down on the trochanter and trephining or boring, or doing both, as being a very simple procedure.

MR. KENDAL FRANKS thought the operation ought to prove most successful on theoretical grounds, but not those on which the authors of the papers (who, however, deserved gratitude for reviving an operation originating in this country) relied. Undoubtedly opening into the trochanter and neck of the bone, with free drainage, promised good results. To talk of ascites as simple and strumous, and of the disease beginning in the bones and synovial membrane, was the pathology of the past. The pathology of the present established two classes of cases—those that were tubercular and those that were not. In the large majority of hip-joint cases the disease was localised tuberculosis, the same as in the lungs and the so-called strumous glands. Ollier, of Lyons, had microscopically proved that in strumous disease of the ankle and hip-joints it was tubercular disease of the bones and the synovial membrane and of the tissues round the joint. Statistics showed that of 250 cases tabulated by Volkmann in his own experience, and in which microscopical examination was made of bone taken out at the time of operation, there were only five or six in which he could not find the bacillus of tubercle. Therefore they had to deal with the simple inflammatory condition of the joint and with the form much more serious which had its origin in tubercle. The simple variety was amenable to cure by counter-irritation and free drainage of the bone. In some cases of tubercular disease also Dr. Kirkpatrick's method promised good results. And why? Suppose the foci of the tubercle to be in the great trochanter or in the neck, what better treatment could there be than boring down upon it and scraping it out, and applying caustic potash or any powerful escharotic to destroy the foci and render recovery probable? Of course if the condition of the synovial membrane was simply one of inflammation, and the tubercular disease had not spread, they might expect the inflammatory condition inside the joint would subside when the irritation of the tubercular foci had been removed from inside the bone. But what good could ensue when the bacilli were found swarming over the synovial membrane was not so certain. If they could be certain that the case was a simple one, the simple modes of treatment were the best; but when the case was strumous—*i.e.*, tubercular—the only rational method was to remove the foci, and that could be done, if the disease began in the bone, by the boring and scraping process and the application of caustics. If the disease was in the synovial membrane he would scrape out the parts and apply, if necessary, a cautery; but in leaving germs

behind there was danger, not so much of the return of the disease in the parts themselves, as of the germs being carried along in the lymphatics and causing general tuberculosis.

MR. FOY called attention to a modification of Sir Philip Crampton's treatment as practised by Dr. Hardy, of Manchester, by slitting the capsule and cutting down on the periosteum.

MR. TATE mentioned that 13 years ago a girl, aged eighteen, was operated on by Dr. Kirkpatrick at the North Dublin Union Workhouse Infirmary. The tubercular affection left her afterwards, and she was now in good health. She had had a child since the operation, and would soon have a second.

MR. STOKES replied.—First, Mr. Stoker's objection to the use of caustic as part of the treatment had been answered by Mr. Croly, who pointed out its twofold advantage—(1) in leaving a large funnel-shaped opening which facilitated drainage, and (2) in keeping the part open much better than if a simple incision were made. Thus, too, the danger was obviated of the wound being filled too rapidly by granulations, or of the external opening closing and leaving a cavity in which the fluids accumulated and suppuration ensued. The excellent results from that mode of treatment formed an argument against the very recent pathological views of Ollier and Volkmann, which they had been taken to task for not having adverted to, as to those cases being constantly so strumous in their character. He had heard Ollier's paper at the Congress in Copenhagen, and the impression produced was that Ollier was looking at all diseases of bones through tuberculous glasses, for every disease appeared in his point of view to be essentially tuberculous. With that view he could not agree, notwithstanding the high authority in support of it. The rapidity of cure from simple modes of treatment and the absence of evidence of tuberculous disease in other parts of the body pointed to the fact that those cases were by no means so frequently tuberculous as they were generally supposed to be. From his own experience certainly he did not think the majority of them were. As to the operation of opening into the large joints and scraping out the diseased parts, he had not done it in the hip-joint, but he had in others with very disappointing results, especially from that procedure in the knee-joint. It was physically impossible to scoop out all traces where there was extensive tuberculous disease. The mode of treatment which he advocated was not to be adopted indiscriminately, but only in selected cases and in the early stages of the disease. Whatever had been said to the contrary, there was no one more alive than he was to the importance of the most perfect rest that could be obtained by mechanical and other means in the treatment of joint disease.

MR. W. THORNLEY STOKER also replied.—With regard to the caustic or no caustic question, he had expressed and felt no very strong opinion.

He believed in bone drainage, and, as stated in his paper, he was open to conviction on the subject of caustic one way or the other. Like Mr. Stokes, he regarded rest as a most important adjunct of the treatment which he advocated. Although Mr. Franks spoke from an Olympian height of modern pathology, he was not carried away either by the positiveness of Mr. Franks's statement or the cogency of his argument; and, despite his having decried the division into osteal and synovial cases, he still thought that was the most important clinical division of morbus coxæ that could be made. Upon that he based the value of the treatment which he advocated. He had not overlooked the distinction between tubercular and simple disease. He had mentioned it, but in addressing a learned Society it was unnecessary that that subject should enter into the text of his paper as if he were addressing a number of first-year students. He did not believe all cases of morbus coxæ were tubercular, while he was sure a great number of them were.

MR. FRANKS explained that his remarks were evoked by the fact that tubercular disease or tuberculosis was not alluded to in the paper.

The Section adjourned.

OBSTETRICAL SECTION.

President—T. MORE MADDEN, M.D., F.R.C.S.Ed.

Sectional Secretary—WILLIAM C. NEVILLE, M.D.

Friday, April 2nd, 1886.

The PRESIDENT in the Chair.

Specimens Exhibited.

DR. ATTHILL exhibited a parovarian unilocular cyst, removed that morning from a pluripara, aged thirty-five. The tumour was chiefly worth exhibiting because of its very rapid growth, unaccompanied by any symptoms of deranged health.

DR. MACAN exhibited the ovaries and tubes of a girl, aged twenty-two, the mother of one child, four years old. Eighteen months since she had been in the Mater Misericordiæ Hospital, suffering from what was then diagnosticated as a pelvic abscess. Subsequently she came under his care in the Rotunda Hospital, when he diagnosticated the existence of two tumours—one on each side of the uterus. She had not then remained in hospital, but returned on the 26th of February, having every appearance of a woman suffering from very acute fever. When in bed her temperature was found to be 103° F. Two tumours could be felt through the posterior *cul-de-sac*, and on aspirating the one on the right hand side he obtained a small quantity of extremely foetid pus. After aspiration the

temperature rose higher than it had been before, and he could not but regard this proceeding as being generally inadvisable. The girl was a servant, but had been for a long time quite unable to keep any situation, being liable at any moment to attacks of the most violent pain, with fever. She also suffered from menorrhagia and from intense dysmenorrhœa. Under these circumstances, and being satisfied that there were collections of foetid pus on both sides of the uterus, he decided upon attempting to remove them by abdominal section. The uterus and all the pelvic contents were found densely matted together, and the dissection of the tumours was an extremely difficult process. He had not aspirated the second tumour so as to be the better able to define and dissect it away from its surroundings—a mistake he regretted, as it ruptured during the operation, and a quantity of its foetid contents escaped into the peritoneal cavity. Symptoms of acute septicæmia appeared within twenty-four hours after the operation, and the patient died on the fourth day. On examining the diseased parts the case was found to be one of double ovarian abscess rather than of pyosalpinx. The tubes were also much thickened and diseased, but the ovarian was clearly the primary affection, and it, he believed, had its origin in septic infection during childbed.

The PRESIDENT and DR. ATTHILL commented upon the case, the latter observing that though in Dr. Macan's patient the operation—a very difficult and dangerous one—had been urgently needed, yet it was one which, in his opinion, had been recently performed elsewhere without due justification.

DR. MACAN also exhibited a large unilocular parovarian cyst, the interesting points in connection with which were—(1) the extreme lengthening of the Fallopian tube, which had attained a length of nearly ten inches; and (2) the extreme ease with which the tumour could be shelled out of its investing peritoneal covering.

DR. MACAN also exhibited a multilocular ovarian cyst, removed from a patient who had a senile vagina terminating in a funnel-shaped extremity. The uterus was also senile and diminutive, so that he had been unable to make out the relations of the tumour by the usual pelvic examination.

DR. M'DERMOTT exhibited an anencephalic foetus.

Cystitis.

The PRESIDENT (DR. T. MORE MADDEN) read a paper "On the Ætiology and Treatment of Cystitis." In the course of this paper the writer referred at some length to the causes of the recent increasing frequency and greater gravity of cases of cystitis observed in the wards for diseases of women under his care in the Mater Misericordiæ Hospital. With regard to the treatment of cystitis in women, considerable stress was

laid by the President on the efficacy (after the failure of milder measures in otherwise intractable cases) of freely dilating the urethral canal so as to cause a temporary incontinence of urine, and thus allow of the direct application of whatever local medication was deemed necessary to the endo-vesical mucous membrane. This plan of treatment Dr. Madden recommended as a substitute for Emmet's operation; or the formation of an artificial vesico-vaginal fistula in some cases; and at the same time he exhibited a new dilator, which he had designed and used for this purpose in many cases of cystitis.

DR. ATTHILL said the milder cases of cystitis very often yielded to rest, warm hip baths, and by keeping the patients at home for some weeks well clothed in flannel, so as to guard against their being chilled. But it was hopeless unless they got the case while still recent and uncomplicated, and independent of pelvic inflammation. The majority of cases of cystitis were complicated with a previous occurrence of pelvic cellulitis, or with uterine or ovarian inflammation and cellulitis. Few cases of severe cystitis were perfectly uncomplicated. A case of cystitis was brought to him lately, which was the sequela of a severe attack of pelvic cellulitis following parturition. If they could lessen the pelvic inflammation they might possibly succeed in curing the cystitis; but pelvic inflammation might all subside, and leave behind it a bad cystitis, in which the patient would perhaps get up twenty or thirty times in a night—dozing for a few minutes, and then starting up again. If the patient got up only three or four times it was evidence that the case was not a severe one. As yet he did not know how to cure the severer cases. It was difficult to get patients to submit to the formation of a vesico-vaginal fistula. In many cases it did good, but the remedy was a very disagreeable one, though he had never seen a case in which the fistula did not eventually close. He (Dr. Atthill) had frequently dilated the urethra, but had never succeeded in affording permanent relief. He had also tried, without much success, the various local applications that had been recommended—injections containing nitrate of silver, carbolic acid, &c. Iodoform had seemed to him to give most relief. An unfortunate tendency of the disease was to spread upwards along the ureters and attack the pelves of the kidneys, eventually causing death after years of suffering.

DR. HENRY KENNEDY had frequently experienced good results from the internal administration of 10 gr. doses of benzoic acid. Anodynes, especially opium, were also very useful, and deserved more attention than had been given them.

DR. ATTHILL concurred as to the usefulness of benzoic acid.

DR. MONTGOMERY, with the late Dr. Hudson, had found a combination of benzoic acid and phosphate of soda most effectual in checking the foetor of the urine and improving the patient's general condition.

MR. DOYLE believed some of the worst cases of cystitis had been produced by over-frequent and unnecessary use of the speculum. He found tincture of eucalyptus effectual in cases where the disease had become chronic.

DR. W. J. SMYLY held that in the majority of cases cystitis has a septic origin, resulting from the use of a foul catheter, from decomposed urine, &c. He did not know how pressure by the foetal head could be a cause of cystitis. Nor did he understand what the President meant by reflex cystitis. The correct treatment consists in the use of antiseptics, with a view to improving the state of the urine, drainage, and the washing-out of the bladder. A vesico-vaginal fistula, if made and kept antiseptically, seemed to him a more efficient and less hurtful treatment than that of urethral dilatation.

The PRESIDENT (DR. T. MORE MADDEN), in reply, observed that one of the chief points on which he had hoped to obtain the opinion of the Section—namely, the advantages of his plan of dilating the urethra in some cases of cystitis—had been somewhat overlooked in the discussion; but of its utility in suitable cases he had no doubt. He had himself had no experience of the local use of iodoform. Boracic (boric) acid had sometimes yielded him good results. Cocain in his hands had proved valueless. One of the most frequent causes of cystitis—the spread of gonorrhœal inflammation—had not, as he thought, been sufficiently dwelt on in the course of the discussion.

The Use of the Curette in the Diagnosis and Treatment of Diseases of the Uterine Mucous Membrane.

DR. W. J. SMYLY read a paper on the above subject. [It will be found in the May Number of this Journal, Vol. LXXXI., page 421.]

The discussion on this paper having been postponed until next meeting, The Section adjourned.

PATHOLOGICAL SECTION.

President—T. EVELYN LITTLE, M.D.

Sectional Secretary—J. B. STORY, M.B.

Friday, April 9, 1886.

The PRESIDENT in the Chair.

Rupture of a Pelvic Cyst.

DR. C. B. BALL communicated a case of rupture of a pelvic cyst. The specimen was removed from the body of an unmarried lady, aged sixty-eight years, who died shortly after the performance of a very trifling operation. She stated that at the time of her menopause a tumour formed in her abdomen, which was attended at the time with considerable menorrhagia; but subsequently it ceased to grow or give her any inconvenience. A year ago he saw her for the first time for some trifling complaint, and she then directed his attention to this abdominal tumour, which, for twenty years, had not given her any uneasiness. It was at the middle line, very firm to the touch, and absolutely painless. He did not then consider that any interference with it was called for. About six weeks ago she consulted him for piles, from which there had been considerable bleeding. She had been operated on for them before; and he operated by clamping two or three small piles. For two days she went on as well as such cases usually did; and then, about forty hours after the operation, she was suddenly seized with sickness of the stomach, and a state of intense restlessness followed. Her abdomen was somewhat distended, but was not tender, and there was no very definite evidence of peritoneal mischief. The rectum had the appearance ordinarily presented after such operations, and there was no inflammation about the seat of the operation, or evidence that anything was going wrong there. The restlessness increased, and he consulted Professor Smith on the evening of the same day; but she died in ten hours after she was attacked with those symptoms, none of which were referable to the operation. He was enabled to make a *post mortem* examination. He had been prepared to find a fibro-myoma attached to the uterus. The first part of that diagnosis turned out to be correct. The tumour was a fibro-myoma; but it was attached not to the uterus, but by a broad pedicle to the neighbourhood of the right ovary. Section of the tumour showed that it corresponded with ordinary uterine myomata, and microscopic examination confirmed that view as to its nature. Dr. Purser, who made the microscopic examination, told him that there was great difficulty in distinguishing between fibro-myomatous tumours and spindle-celled sarcomata; and if he had not had the benefit of

Dr. Purser's opinion he would himself have concluded from the microscopic appearances that it was a spindle-celled sarcoma. Taking the history of the case into consideration, he thought there could be no doubt that this tumour was principally composed of non-striped muscular fibre. The peritoneum was found to contain a considerable quantity of bloody fluid; but beyond a slight congestion of the vessels there was no evidence of peritonitis or adhesions to the viscera. Coming to the broad ligament on the same side as the tumour they found a ruptured and collapsed cyst, which, when distended, would have been about the size of a small orange. On the surface of the uterus were one or two small sub-peritoneal fibro-myomata; and penetrating into the cavity of the uterus were some small tumours of a similar nature. The left broad ligament was occupied by a cyst, evidently similar to the one on the right side, which had ruptured. The most interesting feature about the cysts was the peculiar nature of their contents. The contents very closely resembled thin fæces; and at first he thought the matter might have proceeded from a ruptured intestine, but that proved not to be the case. The material had no fæcal odour, and it filled the cysts in both broad ligaments. The rectum exhibited the remains of the piles, and these showed no evidence of inflammation, or thrombi in the hæmorrhoidal veins, beyond what one would expect to find in such a case. Consequently they concluded that death was due to the rupture of the cyst on the right broad ligament. The fluid which the cysts contained was semi-pultaceous, and proved on microscopic examination to be composed of large plates of cholesterin and fat granules. The ovary on the left side was well above the cyst on that side and unconnected with it. The thin material in the cysts might be due to the formation of dermoid cysts, which occurred sometimes in that region, or it might be due to an antecedent hæmorrhage which had become changed. The pathological evidence was in favour of the latter of these propositions, because he had examined a number of slides of the material, and in none of them had he found anything that could be distinguished as epithelial *débris* of any kind. It was composed of a large number of fat cells and the ordinary cholesterin plates. So that he concluded these tumours to be old extravasations of blood—pelvic hæmatoceles which had undergone change. A fibro-myomatous tumour attached to an ovary was not a very common occurrence.

The PRESIDENT asked was there any suspicion of the existence of the minor tumours during the lady's lifetime?

DR. HENRY KENNEDY remarked that the symptoms consequent upon the rupture of the cyst appeared to have been very slight. He would ask was the collapse of the patient marked; and also was there anything malignant in the tumours?

DR. BALL, in reply, said the smaller tumours in the broad ligament on the side opposite to the tumour which ruptured were not diagnosticated

during life. Possibly they might have been discovered if an exhaustive examination had been made; but as the lady complained of no pain or inconvenience from the tumours he did not prosecute a very detailed examination. The collapse after the rupture of the cyst was very profound. There was certainly no pain, but there was a condition of intense restlessness; and at the time Dr. Smith saw her, shortly before her death, her pulse was absolutely imperceptible. She was then quite conscious and able to talk quite distinctly on all matters, and said she felt no pain; but not only were her wrists pulseless, but no heart sounds could be detected. The existence of the tumour for twenty years was strong clinical evidence against its malignancy. It was often very difficult to distinguish between fibro-myomatous tumours and spindle-celled sarcomata, the latter of which were exceedingly malignant.

Laryngeal Changes subsequent to Laryngo-Tracheotomy.

DR. E. H. BENNETT communicated a case of laryngeal changes subsequent to laryngo-tracheotomy. The specimen consisted of the larynx and trachea of a man on whom he performed laryngo-tracheotomy fourteen years ago. During the building of the Spencer Dock this man, who was then between twenty-five and thirty years of age, was employed at the excavations. He had previously suffered from typhoid fever, from which he had had a tedious recovery; and pressed by the necessities of life, he undertook work sooner than he should have done. In a fortnight after leaving the Whitworth Hospital, where he had been treated for the fever, he was admitted into Sir Patrick Dun's Hospital suffering from extreme dyspnœa. His distress was so great that no detailed examination was possible; and he (Dr. Bennett) opened the air passage by an incision through the crico-thyroid membrane and down through the cricoid cartilage. Immediate relief followed, and a tracheal tube was introduced. It was an ordinary double tracheotomy tube, with a loop-shaped orifice cut in it to facilitate respiration through the larynx. Very soon the mucous membrane projected into this opening; and at each change of the tube a sort of shearing of the edges of the membrane took place, accompanied with hæmorrhage and pain. Consequently that tube was abandoned, and another one of more suitable size introduced. The injury to the mucous membrane occurred two or three times in consequence of the withdrawals of the former tube. The man left the hospital cured; and during many years afterwards he (Dr. Bennett) constantly saw him. He used to observe him at cuttings in the street opposite his own house, which were made for the purpose of testing the gas works, and from which very peculiar odours were emitted. The man would sit smoking at the edge of the cutting; and he said it was immaterial to him what the odours were, because he breathed entirely through the tube, and consequently smelt nothing. One of his amusements consisted in trying

to see how high he could spit through the tube which he wore in his trachea. During his convalescence after the operation a laryngeal examination was made, from which it was discovered that the dyspnœa had been caused by suppurative perichondritis of the larynx. All the tissues were swollen and infiltrated; and the laryngoscope showed that on the left-hand side of the vocal chords there was an opening, through which an abscess had penetrated into the larynx. No necrosis of any part of the larynx ensued. The point of interest was, why it was that in such cases as this, in which laryngeal operations were performed on adults for syphilitic ulceration or for any other affection, the tube had to be always worn afterwards. In several cases he had withdrawn the tube, and the result was that the opening contracted and he had to perform a second tracheotomy and introduce a fresh tube. Did the laryngeal changes result from the mode of operation, or from what other cause? Looking at the present specimen he was inclined to think that the mode of the operation had something to do with it. The first tracheotomy he ever performed was a laryngo-tracheotomy with an incision in the crico-thyroid. He maintained that Boret's mode of performing the operation was the easiest and safest, and much to be preferred to the high operation. In this, as in all the cases of old tracheotomy, the thyroid, cricoid, and other cartilages of the larynx were all ossified. The whole region of the cricoid was shrunk to a minimum, and the larynx was shrunk to the condition of a child's larynx. He was indebted to the President for having called his attention to observations made on this subject by Dr. Pilcher, of New York, and recorded in the *Annals of Anatomy and Surgery*. Dr. Bennett read the observations, and said, in continuation, that he believed the experience of every Dublin surgeon was that if tracheotomy was performed in an adult, and a tube kept in for so long as three or four weeks, it would have to remain in for the patient's life. As he had said, he had always performed the high operation, because he considered it the easiest, and had never done the low one except for the purpose of extracting a foreign body.

In the only case in which he ever divided the trachea below the isthmus for the purpose of extracting a foreign body, he found it necessary to pass up through the thyroid and through the cricoid cartilages, passing the knife between the vocal cords, and they took away the tube within a week after the operation. It took a fortnight to get the foreign body away, but after that they were able to let the opening heal up. The subject was a boy, six or seven years of age, whose mother lived at Milltown; and two years ago, happening to be in that neighbourhood, he saw the boy, who had grown to be a young man, and had entirely recovered. He suffered from none of the changes in question, and laboured under no defect of the larynx; so that these changes could not result from the mere section of the larynx, but must

be due to the presence of the tube and the chronic irritation caused by it. Any one looking at the trachea he was now exhibiting would see that it would have been impossible to remove the tube from it. He knew another case of a man who was able to go for three days without his tube, but at the end of that time he was always obliged to get it in.

The PRESIDENT observed that the fact of Dr. Bennett's patient having been able to spit mucus so far through his tube would oblige them to remodel their physiological views as to the action exerted in coughing. From this power of spasmodic expulsion of mucus they generally looked to the lower part of the trachea. Sir William Jenner made the objection to the operation of tracheotomy for croup that it abolished the coughing function on which the patient must depend for the removal from the passage of diphtheritic or croupous membrane. The power which this man had was contrary to the ordinary assumption of physiologists on that point. Perhaps the results that occurred in Dr. Bennett's case were due to the tube having been allowed to remain in too long. The practical conclusion derived from pathological observations up to the present was, that the surgeon should remove the tube as speedily as possible.

DR. BALL said he could point to two cases in both of which the tube was worn for considerably longer than a month, and in both of which it was subsequently dispensed with. One was a case that occurred about ten years ago, in which tracheotomy was performed for numerous papillomatous growths in the larynx. The patient wore a tube for certainly over six months, and he (Dr. Ball) then removed the growths by a section of the thyroid. This completely relieved the patient, who afterwards breathed through the natural passage, and he had recently heard from him that he could still breathe quite freely without a tube. The other case was one of tracheotomy performed on a woman for syphilitic laryngitis about two years ago. She wore a tube for once a month, and after her larynx had recovered the tube was discontinued, and was never afterwards resorted to. Afterwards she came under the care of his colleague, Dr. Smith, for disease of the liver, and he could state that she then had no dyspnoea whatever. Dr. Bryant recommended tracheotomy to afford physiological rest for the larynx where there was extensive syphilitic ulceration, and the use of a tube, which should be removed after the ulceration had healed; but if the long-continued wearing of the tube produced the results Dr. Bennett had stated, it would be better to leave ulceration to cure itself than to perform tracheotomy.

DR. BENNETT, in reply, said he had omitted to mention that the man whose case he had brought forward died of malignant disease of the stomach, and his death had nothing whatever to do with his laryngeal affection. He used to see him spit, but he never heard him cough. He many times attempted to give up the tube, but without success; and he (Dr. Bennett) used to be summoned to him even at night to re-introduce

it, so rapid used to be the process of constriction set up in the passage. The man used to pawn the tube, which used frequently to involve the supplying him with a new one. The operation of tracheotomy was one which he (Dr. Bennett) believed should never be performed, except for the relief of dyspnœa, or under other circumstances of the most urgent necessity.

Granular Disease of the Kidneys.

MR. M. A. BOYD communicated a case of granular disease of the kidneys. The patient, a lad aged twenty, was received a couple of months ago into the Mater Misericordiæ Hospital. He had had tympany of the abdomen, sickness and vomiting for some days previous, with brown typhoid tongue, and was sent into a ward as a case of typhoid fever. On seeing him he (Mr. Boyd) found that his temperature was normal, and, on examining the case more closely, he found him to be suffering from congestion of the base of the left lung, with bronchitis, while his face, upper extremities, and whole body were cyanosed. He was very stupid and lethargic; but his friends said that he had had those symptoms for a considerable time. He had also loss of memory and puffiness of the face, and had not been able to do his work, which was that of a grocer's assistant. For twenty-four hours before his admission he had not passed any urine, and it was withdrawn by a catheter. For three or four days afterwards his temperature was either normal or slightly sub-normal—between 97.8° and 98.4° . After the first day in hospital his symptoms were those of uræmic coma, and the lethargic appearances seemed to increase. He complained of pain in the occiput and in the right side of the head. The urine, which was drawn off by the catheter, contained albumen. He (Mr. Boyd) concluded that it was a case of disease of the kidneys, with uræmic coma. He died comatose on the fourth day. It proved to be a case of what Dr. Hammond called red granular disease of the kidneys; but there had been no previous affection of the kidneys. Ten years previously he had had scarlatina, but no symptoms of dropsy afterwards or of acute nephritis. He had pains in the knees and ankles, with effusion at the right knee-joint. The diseased kidney was smaller than the natural size, and lighter than it should be. The cortex, although not adhering so closely as to tear the substance of the kidney, adhered pretty closely to it, and could be seen, white and granular-looking, through the capsule. A section of the kidney also disclosed small hæmorrhagic points here and there, and a granular condition of the cortex itself, and the area of the cortex was very much narrowed.

Fibroid Disease of the Stomach.

DR. WALTER SMITH exhibited the stomach from the man, aged forty-two years, on whom Dr. Bennett had previously performed laryngo-

tracheotomy, and who had been under his care in Sir Patrick Dun's Hospital. Fourteen or fifteen years previously he had fever, followed by perichondritis of the larynx, in consequence of which urgent dyspnœa arose, for the relief of which the laryngo-tracheotomy was performed. From that time the man wore the tracheotomy tube, and, except for constipation, always enjoyed good health, until a year ago, when he began to suffer from frequent attacks of vomiting. Upon admission he was found to be greatly emaciated, having eaten no solid food for three weeks. The vomit was dark and turbid, and, under the microscope, showed blood-discs and sarcinæ among the *débris* of food. The urine was free from albumen. The fæces were sometimes covered over with tarry-looking matter. The heart-sounds were normal, and no physical signs of disease in the lungs were noted. There was no enlargement of the inguinal glands. He lived for a month in hospital, occasionally free from pain, but much distressed by severe and recurrent vomiting, the matter ejected being sometimes grass-green, and at other times dark brown. The epigastric pain was relieved by lying on his face and hands, and by pressing his knees against the abdomen in the sitting posture. For a few days preceding death the vomiting ceased, and on February 6th, exactly a month after admission, he died, quietly and suddenly, without warning. On a *post mortem* no pleural adhesions were found, and the lungs appeared healthy, but, upon section, were found to be infiltrated with greenish caseous deposits. There were white patches on the external surface of the heart, which otherwise was normal. The valves were healthy. There was a good deal of fluid in the abdomen. The spleen was firm, and weighed $8\frac{1}{2}$ oz.; the liver, 54 oz.; the latter had numerous minute hæmorrhages on its under-surface. The kidneys were pale, capsule not being adherent; there was no evidence of amyloid degeneration. The intestines were healthy from the pylorus to the anus. The mucous membrane of the stomach was anæmic and puckered. There was fibroid thickening of the pyloric end, especially at the posterior wall, and the pylorus scarcely admitted the passage of the handle of the scalpel. There was some fibroid thickening also at the cardiac end. There was no trace of ulceration. There was diffuse thickening of the gastric submucosa; the microscope showed only fibrous thickening. The principal question was as to the pathology of the changes in the stomach and the diagnosis of them. The symptoms were such as would have led many persons confidently to diagnosticate malignant disease of the stomach. It was sometimes difficult to distinguish between carcinoma and mere fibroid thickening; but in the present case the affection was localised, and he thought it an example of simple fibroid disease, which proved fatal from the atrophy of the glandular apparatus, from which an interference with the peptic functions of the stomach resulted, and also from the thickening of the pylorus causing a mechanical

obstruction. The absence of a tumour had proved nothing, for it was by no means uncommon to find tumours absent in malignant disease. Careful investigators had found that in cases of true gastric carcinoma there was an absence from the vomit of free hydrochloric acid. He (Dr. Smith) had tested this in a case in the hospital, in which gastric carcinoma was diagnosticated, and found it to be true. Dr. Purser stated that he had also found it to be true in a case of his. In cases of this kind accurate diagnosis was important, in view of the possibility of surgical interference.

DR. BENNETT said he feared surgery was going a little mad in these days; but he thought that malignant cancerous disease, which was generally localised, was more likely to be suitable for surgical interference than a case like the present, even though an example of benign disease.

MR. BOYD asked was there any previous history of gastric ulceration that might explain the fibroid thickening? The authorities described fibroid thickening as a primary affection; but in the majority of cases of it that he had come across there had been a previous history of ulceration.

DR. HENRY KENNEDY said where there was a great deal of vomiting it gave rise to hypertrophy of the coats of the stomach. Did this man drink?

DR. BENNETT.—As freely as ever he could.

MR. LENTAIGNE observed that a case of mere narrowing of the pyloric opening caused by a benign affection might be met by surgical interference, and would be much more suitable for the surgeon than a case of malignant disease.

DR. SMITH, in reply, said there was no history of previous ulceration of the stomach. The fibroid growth might have been caused by alcoholic irritation; but, on the other hand, inexplicable fibroid growths might occur in the stomach as well as on the skin.

The Section then adjourned.

Friday, May 14, 1886.

The PRESIDENT in the Chair.

Pyo-pneumothorax.

DR. WALLACE BEATTY exhibited the lungs from a case of left pyo-pneumothorax secondary to phthisis. The patient, a young man, aged twenty, had been in the Adelaide Hospital last July for a few days with symptoms of pulmonary phthisis and stethoscopic evidence of that disease in the upper lobes of both lungs. On the 24th of October he was seized, when coughing, with a severe pain below the left clavicle, causing a sensation as though his left lung was breaking in two. He was admitted to hospital on the 27th of October. On admission the charac-

teristic signs of left pneumothorax were present, and after a few weeks fluid was effused into the lower part of the pleural cavity, as was evidenced by percussion dulness at the left base, and succussion splash. There were physical signs of excavation in the upper lobe of the right lung. The patient lived six months after the occurrence of the pneumothorax. On *post mortem* examination the left half of the diaphragm was found depressed, convex downwards, and extending one and a half inches below the lower border of the left costal arch. It had doubled the left lobe of the liver upon itself. The right half of the diaphragm was in its normal position. Gas escaped from the left pleural cavity on its being opened—that cavity contained about five pints of odourless pus. The pleura was much thickened. The left lung was carnified, very small, and pressed up against its root, except at the upper part anteriorly, where adhesions bound it to the chest wall. At the inner surface in its upper part a circular opening or ulcer was found—in diameter about the size of a sixpence—shallow in its posterior half, where there was a minute pin-hole perforation; in its anterior half it was about a quarter of an inch deep, and sub-divided by bands of lung tissue. The upper lobe of the right lung presented numerous cavities, the lung tissue between the cavities being consolidated. The only healthy surface the patient had was that of the lower lobe of the right lung.

THE PRESIDENT remarked that the detection of the opening from which the air entered the pleura was not very commonly effected in these cases, and in the present specimen it was very obvious.

DR. FINNY said he saw the patient twice through the kindness of the authorities of the Adelaide Hospital. The first time was early in December, and the physical signs of pyo-pneumothorax were then very well marked on the left side, but he did not remember seeing any marked signs of the disease on the right side. Although it was a matter a little outside the business of that Section, he could not help saying that he thought that if the pleural cavity which at death was found to contain five pints of pus, by which the under-surface of the liver was depressed an inch and a half below the costal arch, had been opened during life and the pus removed, advantageous results might have ensued. Four years ago, in the City of Dublin Hospital, he had a case of pneumothorax, in which he tapped the side—it was not the same side as in the present case—and let out a quantity of fluid, after which the heart came back almost to its proper place. Of course the cavity remained secreting pus, with air in the upper part. The free vent given to the pus helped to prolong the life of the individual. Within the last fortnight the man was sent up to him, and he found that the effusion had been entirely absorbed, and that the entire lung and chest wall had fallen in.

DR. HENRY KENNEDY said that in the majority of cases this disease occurred on the left side, and such had been his experience. Except in

two cases, he had never failed on a *post mortem* to find out where the opening was. It generally occurred at the base of the upper lobe, immediately under where the attachment of the lobe ceased and false adhesions began. They knew that adhesions took place in this disease long before the occurrence of the event which caused the pneumothorax; and, according to his experience, it was immediately below where these adhesions ceased, and at the base of the upper lobe, that the opening might be found. He saw four cases in which there was difficulty in saying whether the perforation had taken place or not. As to the duration of the disease, in the present case it was unquestionably unusual that it should have lasted so long; but Dr. Stokes, in his work, mentioned more than one case in which the disease lasted above a year, and in which the patient was able to take considerable exercise while labouring under the disease.

DR. BEATTY, in reply, said perhaps he had been wrong in not tapping the left side of the chest; but when the patient first came to the hospital there was no fluid in the pleural cavity. Afterwards a small quantity of fluid was effused; and as there was marked evidence of the upper part of the right lung being diseased, he thought that, both lungs being diseased, tapping would hardly prolong the patient's life.

Displacement of the Heart.

DR. C. J. NIXON communicated a case of displacement of the heart in aortic patency, and exhibited the specimen. It was the heart of a man, of about sixty years of age, who was admitted into the Mater Misericordiæ Hospital with the physical signs of aortic patency. On examining his chest with the stethoscope they found an extremely well-marked hissing murmur, diastolic—or rather post-diastolic—in time, and having its maximal point of intensity at a line connecting the two fifth costal cartilages—in other words, a little above the base of the ensiform cartilage on the left side. That murmur was not audible at the apex of the heart. Travelling upwards towards the aortic area the murmur ceased, and over that area, and above the systolic murmur, was heard a well-pronounced aortic sound. They found in the carotid arteries a loud, hoarse, systolic murmur, which was followed by a distinctly-marked aortic second-sound. He pointed out to Dr. MacSwiney the peculiarity in the physical signs, which was that they had a very well-marked murmur of aortic regurgitation, having its maximal intensity at the base of the ensiform cartilage at the left side; and yet over the area proper there was a distinctly-marked aortic second-sound, and the aortic second-sound was heard in the carotid arteries. He pointed out that it rarely happened that the aortic murmur of regurgitation was not a substitution sound—that was, that it was only in exceptional cases that the murmur of regurgitation and the aortic second-sound were both heard well marked. The difficulty in such

cases was to determine whether the sound which was heard was an aortic or a pulmonic sound. They heard the aortic second-sound most clearly pronounced in the carotid arteries; and with regard to the explanations which were given of the contemporaneous occurrence of this sound and of the murmur of regurgitation, one was the theory of Dr. Hayden, that in cases of commencing aortic incompetency, the aortic segments might be sufficiently sound to produce by their tension a clearly-defined second-sound, which yet might be represented by a murmur following that second-sound. The murmur in the present case was clearly post-diastolic, and seemed to correspond with what was heard in the cases of aortic patency described by Gairdner, where the sternum acted as a sounding-board, and conveyed the murmur of aortic regurgitation downwards, so that it was best heard over the base of the ensiform cartilage. At the apex of the heart the first sound was feebly pronounced, and they could hear indistinctly the aortic diastolic murmur. The impulse beat of the heart was about an inch to the left side of the nipple, in the fifth intercostal space. The apex beat of the heart, in place of being displaced downwards, was slightly upwards, but considerably to the left of the nipple line. There was in the epigastrium a para-epigastric impulse of very marked intensity. The course of the case was rather rapid, and the man, on making some slight exertion in bed, fell back and died. The heart was found to be considerably enlarged. The walls of the left ventricle were considerably hypertrophied, and its cavity dilated. The hypertrophy of the muscoli papillares was more or less in correspondence with the hypertrophy of the walls of the ventricle itself. The aortic valve segments did not appear to be very much altered by disease. They were smooth on the surface and fairly competent, but there was at certain points enormous thickening of the valvular attachments, and the thickening was almost cartilaginous in density. On applying the usual water-test, the valves were found to be incompetent, but not so to any marked extent. The right ventricle and the right side of the heart generally were considerably dilated, and the walls of the left ventricle were hypertrophied. The first point in connection with the case was that the pathological appearances explained the physical signs. The aortic valve-flaps were in themselves texturally sound enough to produce by their tension a clear and well-defined aortic second-sound. That was the condition that existed in the case. The thickening of the attachments of the valve-flaps to the aortic zone produced a certain amount of contraction of the orifice, giving rise to the systolic murmur; and the slight amount of incompetency of the valves led to the murmur of regurgitation. The next point of interest was the position of the apex beat of the heart. Many years ago he heard Sir Dominic Corrigan lecture on the alteration in the position of the heart which occurred in the disease with which his name was associated—namely, aortic patency. He held that there

were two displacements occurring in the disease. One took place in its earlier stages, resulting from the constant regurgitation of blood from the aorta to the ventricle, and the subsequent changes that ensued upon the incapacity of the ventricle, and was a displacement of the heart downwards. Afterwards, according to Corrigan, the displacement of the heart downwards was arrested by the diaphragm, and the heart underwent a rotation by which its apex was twisted upwards towards the left side. He did not think this explanation true. In the first stages of the disease they had the usual displacement of the apex beat which followed the hypertrophied and dilated left ventricle—that was, a displacement of the apex of the heart downwards, and slightly to the left side. But after that an enormous distension of the ventricle took place, and then they had certain influences produced by that condition of the ventricle on the circulation through the left auricle and through the right side of the heart. The final result would be a great distension of the right side of the heart—first a dilatation of the auricle, and then a dilatation and subsequent hypertrophy of the right ventricle. They should bear in mind the exact position of the right auricle in relation to the right lung—that the right auricle rested on the middle lobe of the right lung; and, according to Hilton, they might regard the middle lobe of the right lung as a sort of anatomical wedge, which afforded a very complete support to a portion of the heart which was very distensible—namely, the right auricle. The changes that occurred in aortic patency caused very great distension of the right auricle; and if that right auricle rested against a portion of the lung not likely to expand before it or make way for it, the result was that with the increasing distension of the heart the right side of the heart would generally tend to assume a more horizontal position, and its apex would be displaced to the left side. This, he thought, was a better explanation of what occurred than that given by Sir D. Corrigan. Another important point in connection with that view was that in those cases in which they had great distension of the right side of the heart they would also have a great amount of turgescence and distension of the liver. The liver would then become like an erectile organ, and its pressure upwards against the diaphragm would more or less impede any downward pressure upon it, so that a lateral movement of the heart towards the left would be favoured. In connection with this case he made some observations as to the position of the heart and the great vessels. The body was kept horizontally upon the back, and in order to prevent any collapse of the lungs he first carefully tied the trachea. He then raised the sternum and costal cartilages in the usual way; and, lifting the sternum, he removed the tissues connecting the costal cartilages, and then replaced the sternum and cartilages in their previous position. He then passed a number of long pins through the intercostal spaces. He found that the pin which went through the second right intercostal space passed through

the edge of the lung and the outer side of the superior vena cava, which was ordinarily recognised as the true aortic area. The pin which passed through the centre of the second left intercostal space, immediately behind the sternum, passed through the centre of the sound part of the arch of the aorta, and then through the second left intercostal space—an inch and three-quarters from the left margin of the sternum, and one and an eighth of an inch to the left of the aorta, and then transfixed the centre of the pulmonary artery. The pin immediately below the third left costal cartilage—one inch and an eighth from the margin of the sternum—transfixed the centre of the conus arteriosus and the apex of the left ventricle, and then passed into the fifth intercostal space, three and a half inches from the left border of the sternum; and the position of the upper portion of the right ventricle—the extreme right of the right ventricle—was found to be only one inch and a sixteenth higher than the apex of the left ventricle. A matter of chief importance was the position of the pulmonary artery and the position of the left lung. The edge of the left lung almost completely covered the conus arteriosus; and it was only after the edge of the left lung had been taken away to the left side that they could see, popping up from behind, the apex of the left auricular appendix, touching the edge of the aorta. That was a very important point in connection with the view held by Balfour with regard to the point of intensity of the mitral murmur under certain conditions. Balfour held the extraordinary view that the murmur of chlorosis, which they had been always inclined to regard as more frequently pulmonary than of any other character, was really a mitral murmur, not having its point of intensity at the mitral area, but heard close to the sternum on the left side of the fourth intercostal space, and developed by regurgitation through the mitral orifice. Anyone who took the trouble of examining the position of the apex of the left auricle could hardly understand how, in any retractile disease of the upper portion of the lung, the apex of the left auricle could come into contact with the left wall at all. He was not disposed to attach more than a relative importance to the position of the heart and great vessels; but, as far as he had noted this case, it afforded evidence that in cases of aortic patency there was a considerable horizontal displacement of the heart—a rotation of the heart on its axis which brought the edge of the right ventricle to a lower position than usual; and it seemed that the distension of the right side of the heart, following the disease on the left, had a tendency to shift the heart itself and the great vessels in connection with it to the left.

DR. FINNY asked how Dr. Nixon explained the very sudden death of the patient where the regurgitation was of such a very slight character, according to his own showing. The valves were evidently of sufficient tone to produce a good second-sound. Sudden death in cases of aortic

patency was a rare phenomenon. What proof was there in this case that the right side of the heart was at all affected, the mitral valve being competent? He could not see how Dr. Nixon's hypothesis explained the displacement.

DR. HENRY KENNEDY asked what was the state of the pulse and of the visible pulsations. According to his observation in these cases, the heart had the appearance of being shortened and greatly increased in breadth.

MR. DOYLE—There must have been more or less narrowing of the aortic orifice.

DR. NIXON—Yes.

MR. DOYLE said that at the left corner of the anterior flap of the valve he observed bands which he thought might have conveyed the murmur along the anterior wall of the ventricle. The condition of the anterior curtain of the mitral valve would have allowed more or less regurgitation.

The PRESIDENT said he was disposed to think that Dr. Nixon did not give quite its full value to the fixity of the diaphragm in his explanation of the phenomenon of the changing direction of the heart that he sought to illustrate. That change in direction in advanced cases of aortic disease had been long recognised, and he thought that, even on Dr. Nixon's own interpretation of the descent of the right side of the heart, in virtue of the enlargement of the right side—which he could quite understand independent of obstruction of the mitral valve—it was necessary that the fixity of the diaphragm should be introduced as a factor in explaining that the whole heart did not go down with the right side in these cases, as they knew it did in other cases. Certain points would lead them to believe that Sir Dominic Corrigan was right in attaching a great deal of importance in cases of this kind, as well as of pericardial effusion, to the fixity of the diaphragm. Modern anatomical writers had described certain ligamentous structures as tending to attach the diaphragm upwards towards the upper outlet of the thorax in a much more recognised manner than had been in former times observed; and the observations of Virchow on the fixity of the diaphragm as one of the chief elements regulating the position of the abdominal and other viscera led him (the President) to attach more importance to it than Dr. Nixon seemed to have allowed. Had Dr. Nixon compared his admirable observations on the position of the parts with those that had been made on frozen sections of the body? He believed that although they were still open to certain objections not fully recognised, frozen sections were the only way they had of arriving at the relative topography of the different organs. So that, as regarded the position of the left lung, which Dr. Nixon had described as overlapping the appendix of the auricle, he (the President) thought that, even if it occurred in a frozen section, the

position of a part like the lung should be taken with a great deal of caution, and *à fortiori* so in a case where no such precaution had been taken. The amount of emphysema and adhesion existing in ordinary dissecting-room specimens was so large that it would be hazardous to found on any single case such a theory as Dr. Nixon had endeavoured to establish in connection with the *bruit* that occurred in chlorosis. That was a point never to be forgotten by any person who had seen the extraordinary variety of position as regarded their edges that the lungs maintained on both sides in different bodies that came within their ordinary observation.

DR. NIXON, in reply, said the explanation of the patient's sudden death was to be found altogether in the condition of the myocardium, which he had not time to examine, but he took it for granted that it was in a state of fatty change. He found the left ventricle full of currant jelly matter; and as regarded the sudden death, the case seemed one of paralysis of the heart in diastole. As to the explanation of aortic patency as following changes on the right side, Dr. Finny knew as well as he did that there were cases of aortic patency in which there was not displacement of the apex of the heart upwards to the left side. There were displacements of the apex which were found in dilatation and hypertrophy of the left ventricle, and which were distinctly downwards and to the left side; but when they found that the displacement to the left side was carried upwards and in a horizontal direction, they must admit the existence of another factor in producing that change. The only factor that he knew would be the subsequent changes in the right side of the heart following the changes in the left. It was not necessary, in cases of aortic patency, in explaining a dilated condition of the right side of the heart, to assume mitral inadequacy. If, in a case of aortic patency, the left ventricle was filled from two sources in place of one, obviously there was from that circumstance an impediment to the free and thorough emptying of the left auricle, which must subsequently lead to the distension of that chamber and to the subsequent implication of the chambers on the right side of the heart. And they were not, in such a case, to look for any changes in the curtains of the mitral valve to explain mitral regurgitation. With regard to Dr. Kennedy's question, the patient's pulse was 90 and very distinctly aortic in character, and the pulsations of the vessels in the neck were very well marked. He took a tracing of the pulse, and it had the usual characteristics of tracings in which there was aortic patency. With reference to Mr. Doyle's observations, he (Dr. Nixon) believed that, as a rule, the aortic regurgitant murmur was conducted downwards towards the ensiform cartilage, and not, as they would expect, *à priori*, downwards towards the mitral area. He did not know any satisfactory explanation of that. Gairdner's explanation, which he had mentioned, was that in those cases the sternum

acted as a sounding-board and conducted the murmur towards the ensiform cartilage. However, that was by no means an invariable rule, and he had at present under his observation in the hospital a case of aortic patency, in which the diastolic murmur was heard with the most marked intensity at the mitral area—so much so that a member of the class, on examining the case, said the man had a well-marked mitral regurgitant murmur. He (Dr. Nixon) said, “Put your hand on his pulse,” and then the student found that there was a want of synchronism between the pulse and the murmur. There was a distinctly marked diastolic murmur conducted downwards towards the apex. The explanation of Foster was that the murmur represented a lesion of the aortic opening which was confined to the two posterior aortic segments, and continuous with the anterior flap of the mitral valve, so that the regurgitating stream of blood falling on the flaps threw them into vibrations which were conducted downwards towards the heart, and that, consequently, the diastolic murmur was best heard at the apex of the heart. He regarded the President’s observations with great respect, but in some points he was unable to agree with him. In the first place, if the fixity of the diaphragm was to be taken as a perfectly unalterable quantity, they could never explain the very marked displacement of the apex beat of the heart, which was so frequently met with in cases of uncomplicated hypertrophy or dilatation of the left ventricle. It was not at all uncommon, in cases where the hypertrophy and dilatation were confined to the left ventricle, to find that the apex beat of the heart was in the sixth, and sometimes as low as the seventh intercostal space. Obviously, in such cases the fixity of the diaphragm must have given way to the greater pressure exercised by the increasing volume of the ventricle. At all events, what he found it difficult to account for was that in cases of aortic patency, up to a certain time, they simply had the displacement downwards and to the left of the apex of the heart, which they had in uncomplicated hypertrophy and dilatation of the left chamber; and then came in the factor which not alone influenced the condition of the heart in aortic patency, but, when it existed, influenced the heart in every other valvular disease—namely, the distension and hypertrophy of the right side; and whenever that occurred in a case of mitral regurgitation or aortic stenosis or regurgitation, they had a displacement of the heart, not downwards or horizontally to the left, or upwards to the left, but as he had described. The condition of the apex of the left auricle they were not to attach too much importance to as a solitary observation; but the condition of things he found in the present case with regard to the position of the left auricular appendix, and the amount of covering it received from the left lung, led him to the conclusion that, assuming other human bodies to be formed in the same way as the one he examined, it was impossible, in the absence of any tractile (?) disease of the lung

that the apex of the auricular appendix could come into contact with the chest walls.

Acute Pericarditis.

DR. FINNY exhibited a specimen, two days old, of acute pericarditis. It was taken from a man, fifty-two years of age, addicted to alcoholism, which had caused him to lose a great many good positions. He came into hospital almost in a state of collapse, and was pulseless, cyanotic, without œdema of the legs. Neither of his heart-sounds could be felt, or almost heard; and it was only with great difficulty, and after free stimulation, that his pulse could be detected at the wrists. In that condition he remained for some days, and then died. The physical signs were dulness over the precordial region resembling closely, but not accurately, that in precordial distension, while the absence of sounds of the heart outside the precordial region, and absence of any precordial impulse anywhere, made the case one of no little difficulty to interpret. The patient was dead two days. The specimen was an example of well-marked acute pericarditis, in which adhesions were forming from one surface to the other. Many of the bands were broken down, but some were not. The heart itself, when cut into, was fatty, and a large amount of fat was deposited on the auricular surfaces and also the ventricular. He had not microscopically examined the interior of the heart. He looked on the case as one in which the inflammation not only occurred in the pericardium, but passed to some extent into the heart, producing the weak action of the heart which was found. The kidneys were in a state of commencing granular disease, while the liver afforded a good example of commencing cirrhosis; it was a cirrhotic liver in the contractile stage.

DR. NIXON observed that a point in connection with this specimen was the frequency with which pericarditis, strictly localised to the posterior aspect of the right auricle and the right auricular appendix, was met with. That condition was invariably met with in cases of death from suppurative pneumonia, and the exudation always took the form of a pasty emission. In the present specimen it would be seen that the evidences of pericarditis were intensely marked on the posterior aspect of the auricle and auricular appendix, and there was a greater amount of deposition of lymph in that than in any other part of the heart.

THE PRESIDENT—Do you say that the pericarditis is localised independently of the side on which the suppurative pneumonia may occur?

DR. NIXON—Perfectly independently.

DR. BEATTY—Was there pleuritis?

DR. FINNY—Simple pericarditis. There was no lung disease at all.

Horse-shoe Kidney.

DR. NIXON exhibited a kidney from the patient on whose remains he had made the *post mortem* in the case of aortic patency. He found great difficulty in removing it, and then discovered it to be a beautiful example of horse-shoe kidney. The lower ends of the two kidneys were connected by a band of renal substance passing between the vertebræ and the abdominal artery, and by means of which the two kidneys were rendered perfectly continuous. The ureters passed down in front of the band, which was exceptional—their usual course, according to Bartels, being behind the transverse band.

The PRESIDENT said he never saw a case in which so broad a band existed between the two organs as here. He understood the usual position of the ureters in such cases to be the reverse of that stated by Dr. Nixon—namely, in front of the band. He had never seen a case in which they passed behind it.

The Section then adjourned.

THE TREATMENT OF SINGULTUS.

To the numerous plans recommended for the relief of hiccough, Dr. R. B. Williams adds a new one. It consists simply in giving the patient a good pinch or two of “catarrh snuff” to produce immoderate sneezing. He states he has seen the happiest results from it in hiccough of as much as two days’ persistence. A simple “catarrh snuff” for the purpose may be made by mixing one part of powdered veratrum album with about four parts of pulverised liquorice root.—*The Medical Record*, June 5.

COCAIN AS A DIURETIC.

FROM observations that are being made by Drs. Da Costa and Penrose at the Pennsylvania Hospital (*Medical News*, June 19), it would seem that the administration of cocain in doses of one grain thrice daily by the mouth or hypodermically, increases the secretion of urine. This diuretic action is not alone striking while the drug is being given, but persists for some days after its withdrawal. It has not yet been determined whether the solids of the urine, and especially the urea, are also excreted in more considerable quantities, but it is believed they are. The therapeutical application of these observations is self-evident. Irrespective of its diuretic influence, we ought to obtain advantage from cocain in instances of weak heart with dropsy; and, so far as this line of investigation has been pursued, such is actually the case. In uræmia, with scanty secretion of urine, the remedy is also well worth a trial.

SANITARY AND METEOROLOGICAL NOTES.

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VITAL STATISTICS

For four Weeks ending Saturday, June 19, 1886.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

TOWNS	Weeks ending				TOWNS	Weeks ending			
	May 29.	June 5.	June 12.	June 19.		May 29.	June 5.	June 12.	June 19.
Armagh -	25·8	31·0	20·7	10·3	Limerick -	24·3	22·9	16·2	25·6
Belfast -	29·6	21·4	21·4	23·5	Lisburn -	19·3	4·8	19·3	24·2
Cork -	14·9	21·4	18·8	20·8	Londonderry	21·4	12·5	21·4	23·2
Drogheda	21·1	12·7	29·6	33·8	Lurgan -	15·4	10·3	35·9	30·8
Dublin -	25·4	25·1	20·2	21·3	Newry -	14·0	7·0	7·0	17·6
Dundalk-	17·5	17·5	8·7	17·5	Sligo -	14·4	4·8	0·0	4·8
Galway -	13·4	33·6	10·1	13·4	Waterford -	20·8	16·2	23·2	23·2
Kilkenny	12·7	8·5	21·1	4·2	Wexford -	34·2	29·9	38·5	38·5

In the week ending Saturday, May 29, the mortality in twenty-eight large English towns, including London (in which the rate was 15·5) was equal to an annual death-rate of 17·4 per 1,000 persons living; in Glasgow the rate was 24·7; and in Edinburgh 19·6.

The average annual death-rate represented by the deaths registered last week in the sixteen principal town districts of Ireland was 24·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·0 per 1,000, the rates varying from 0·0 in ten of the districts to 5·1 in Lurgan; the 3 deaths from all causes registered in that district comprise 1 from enteric fever. The 126 deaths from all causes registered in Belfast comprise 1 from diphtheria and 5 from diarrhoea.

In the Dublin Registration District the births registered during the

week amounted to 230—118 boys and 112 girls—and the deaths to 176—87 males and 89 females.

The deaths represent an annual rate of mortality of 26·0 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 25·4 per 1,000.

There were but 6 deaths from zymotic diseases registered, being 21 below the average for the corresponding week of the last ten years, and 4 under the number for the week ended May 22; they consist of 2 from scarlet fever (scarlatina), 2 from whooping-cough, 1 from diphtheria, and 1 from enteric fever.

Thirteen cases of scarlatina were admitted to hospital during the week, being 7 over the admissions for the preceding week; 2 scarlatina patients were discharged during the week; and 43 remained under treatment on Saturday, May 29, being 11 over the number in hospital on the previous Saturday.

In the week ending Saturday, June 5, the mortality in twenty-eight large English towns, including London (in which the rate was 15·5), was equal to an average annual death-rate of 17·0 per 1,000 persons living; in Glasgow the rate was 25·2; and in Edinburgh 17·8. The average annual death-rate in the sixteen principal town districts of Ireland was 21·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·3 per 1,000, the rates varying from 0·0 in ten of the districts to 8·5 in Drogheda; the 3 deaths from all causes registered in that district comprise 2 from measles. The 91 deaths from all causes registered in Belfast comprise 1 from whooping-cough, 2 from enteric fever, and 4 from diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 213—115 boys and 98 girls—and the deaths to 177—86 males and 91 females.

The deaths represent an annual rate of mortality of 26·1 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 25·1 per 1,000.

Ten deaths from zymotic diseases were registered, being 4 in excess of the low number for the preceding week, but 19 under the average for the 22nd week of the last ten years; they comprise 3 from scarlet fever (scarlatina), 3 from whooping-cough, 1 from enteric fever, 2 from diarrhœa, &c.

Eight cases of scarlatina were admitted to hospital during the week, being 5 under the admissions for the preceding week; 8 scarlatina patients were discharged during the week, and 42 remained under treatment on Saturday, June 5.

In the week ending Saturday, June 12, the mortality in twenty-eight large English towns, including London (in which the rate was 16·0), was equal to an average annual death-rate of 17·4 per 1,000 persons living; in Glasgow the rate was 22·9; and in Edinburgh 22·5. The average annual death-rate in the sixteen principal town districts of Ireland was 20·1 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 0·8 per 1,000, the rates varying from 0·0 in nine of the districts to 10·3 in Armagh; the 4 deaths from all causes registered in that district comprise 1 from diphtheria and 1 from diarrhoea. The 91 deaths from all causes registered in Belfast comprise 1 from typhus and 1 from enteric fever; 1 of the 2 deaths in Newry was caused by typhus; and the 12 deaths in Londonderry comprise 1 from enteric fever.

In the Dublin Registration District the births registered during the week amounted to 200—101 boys and 99 girls—and the deaths to 141—74 males and 67 females.

The deaths represent an annual rate of mortality of 20·8 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 20·2 per 1,000.

Thirteen deaths from zymotic diseases were registered, being 3 over the number for the preceding week, but 21 under the average for the 23rd week of the last ten years; they comprise 4 from whooping-cough, 2 from cerebro-spinal fever, 1 from diarrhoea, 2 from erysipelas, &c.

Twelve cases of scarlatina were admitted to the hospital during the week, being 4 over the admissions for the preceding week; 9 scarlatina patients were discharged during the week, and 45 remained under treatment on Saturday, June 12, being 3 over the number in hospital at the close of the preceding week.

There were but 2 cases of typhus and 2 of enteric fever admitted during the week; 4 cases of the former and 8 of the latter disease remained under treatment in hospital on Saturday, June 12.

In the week ending Saturday, June 19, the mortality in twenty-eight large English towns, including London (in which the rate was 14·9), was equal to an average annual death-rate of 16·8 per 1,000 persons living; in Glasgow the rate was 24·4; and in Edinburgh 20·8. The average annual death-rate in the sixteen principal town districts of Ireland was 21·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·2 per 1,000, the rates varying from 0·0 in nine of the districts to 4·8 in Lisburn; the 5 deaths from all causes registered in that district comprise 1 from enteric fever. The 100 deaths

from all causes registered in Belfast comprise 6 from diarrhœa, but none from any other of the principal zymotic diseases. Two of the 10 deaths registered in Waterford were caused by diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 191—91 boys and 100 girls—and the deaths to 155—64 males and 91 females.

The deaths represent an annual rate of mortality of 22·9 in every 1,000 of the estimated population ; omitting the deaths of persons admitted into public institution from localities outside the district, the rate was 21·3 per 1,000.

Twelve deaths from zymotic diseases were registered, being 13 below the average for the corresponding week of the last ten years, and 1 under the number for the week ended June 12 ; they comprise 1 from scarlet fever (scarlatina), 2 from typhus, 1 from whooping-cough, 2 from cerebro-spinal fever, 1 from ill-defined fever, 2 from diarrhœa, &c.

Thirteen cases of scarlatina were admitted to hospital during the week, being 1 over the admissions for the preceding week ; 7 scarlatina patients were discharged during the week, and 51 remained under treatment on Saturday, June 19, being 6 over the number in hospital on the previous Saturday.

Two cases of typhus and 2 of enteric fever were admitted to hospital, being equal to the respective corresponding numbers for the preceding week ; there were but four cases of typhus and 7 of enteric fever in hospital on Saturday, June 19.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of June, 1886.

Mean Height of Barometer,	-	-	-	30·016 inches.
Maximal Height of Barometer (on 30th, at 9 a.m.)	-	-	-	30·325 „
Minimal Height of Barometer (on 11th, 9 p.m.)	-	-	-	29·609 „
Mean Dry-bulb Temperature,	-	-	-	56·6°.
Mean Wet-bulb Temperature,	-	-	-	53·2°.
Mean Dew-point Temperature,	-	-	-	50·0°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·363 inch.
Mean Humidity,	-	-	-	78·7 per cent.
Highest Temperature in Shade (on 28th),	-	-	-	71·7°.
Lowest Temperature in Shade (on 27th),	-	-	-	46·3°.
Lowest Temperature on Grass (Radiation) (on 6th),	-	-	-	39·5°.
Mean Amount of Cloud,	-	-	-	62·9 per cent.
Rainfall (on 15 days),	-	-	-	1·293 inches.
Greatest Daily Rainfall (on 2nd),	-	-	-	·540 inch.
General Directions of Wind,	-	-	-	N.W., W., E.

Remarks.

June, 1886, may be regarded as a month of average temperature, northwesterly winds, and a frequent but scanty rainfall. Cool, squally winds blew on several days from points between W. and N.N.W. At first these fresh winds were accompanied by showers, but after the 14th only $\cdot 148$ inch of rain was registered on 4 days. About 42 per cent. of the rainfall for the whole month fell on the 2nd, when the measurement was $\cdot 540$ inch. The amount of cloud was usually large, but the last few days were characterised by brilliant weather and intensely hot sunshine.

In Dublin the mean temperature ($57\cdot 5^{\circ}$) was very nearly the average ($57\cdot 7^{\circ}$); the mean dry bulb readings at 9 a.m. and 9 p.m. were, however, only $56\cdot 8^{\circ}$ —the deficit being due to the low readings at 9 p.m.— $55\cdot 8^{\circ}$ on the average—in fact, the evenings were notably cold during the greater part of the month. In the twenty years ending with 1884, June was coldest in 1882 (M. T. = $55\cdot 8^{\circ}$) and warmest in 1865 (M. T. = $61\cdot 0^{\circ}$). In 1885, the M. T. was $56\cdot 2^{\circ}$; in the cold year, 1879, it was $55\cdot 9^{\circ}$.

The mean height of the barometer was $30\cdot 016$ inches, or $0\cdot 092$ inch above the average value for June—namely, $29\cdot 924$ inches. The mercury rose to $30\cdot 325$ inches at 9 a.m. of the 30th, and fell to $29\cdot 609$ inches at 9 p.m. of the 11th. The observed range of atmospherical pressure was, therefore, $0\cdot 716$ inches—that is, less than three quarters of an inch. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was $56\cdot 8^{\circ}$, or $6\cdot 6^{\circ}$ above the value for May, 1886; that calculated by Kaemtz's formula—viz., $\text{min.} + (\text{max.} - \text{min.} \times \cdot 41) = \text{Mean Temp.}$ —from the means of the daily maxima and minima was $56\cdot 3^{\circ}$, or $0\cdot 3^{\circ}$ below the average mean temperature for June, calculated in the same way, in the twenty years, 1865–84, inclusive ($56\cdot 6^{\circ}$). The arithmetical mean of the maximal and minimal readings was $57\cdot 5^{\circ}$, compared with a twenty years' average of $57\cdot 7^{\circ}$. On the 28th the thermometer in the screen rose to $71\cdot 7^{\circ}$ —wind E.; on the 27th the temperature fell to $46\cdot 3^{\circ}$ —wind also E. The minimum on the grass was $39\cdot 5^{\circ}$ on the 6th. The rainfall was $1\cdot 293$ inches, distributed over 15 days. The average rainfall for June in the twenty years, 1865–84, inclusive, was $1\cdot 962$ inches, and the average number of rainy days was $14\cdot 7$. The rainfall, therefore, was considerably below the average, while the rainy days were equal to it. In 1878 the rainfall in June was very large— $5\cdot 058$ inches on 19 days—and in 1879, $4\cdot 046$ inches fell on 24 days. On the other hand, in 1874, only $\cdot 405$ inch was measured on 9 days.

The air was more or less foggy on the 4th and 11th. High winds prevailed on as many as six days, but there was no gale.

As happened in May, the month opened with unusually low temperature in many places, a keen N.E. wind, clouds and cold rain. Thunderstorms occurred in many parts of England. This unseasonable weather

was caused by the passage across England and the North Sea of an irregularly-shaped depression. In the rear of this low-pressure system an anticyclone spread over the British Isles from the northward. Light breezes and fine weather, therefore, set in and continued until the close of the week. On the night of Friday, the 4th, the sheltered thermometer at Cambridge fell to 34° .

During the week ending Saturday, the 12th, the weather experienced in our islands and their neighbourhood—though fair as a rule—was at times rainy and unsettled, and on one occasion (Thursday, the 10th) a fog formed over the S.E. of England, which was unusually dense for the time of year. At the same time heavy rain fell in the district named. Next day, local electrical showers fell near Dublin, although no thunder was heard in the city.

The weather of the following week—ending Saturday, the 19th—was cool and very unsettled, with frequent showers at first. Thunderstorms were reported from some English stations. Between the 14th and 16th the weather was affected by a large depression, which crossed Scotland on its way to Norway. From the latter country it travelled in a S.E. direction to Germany and Central Europe. It caused strong squally W. to N.W. or N. winds. While the weather over our islands was thus showery and cool, that over Northern Europe was remarkably fine and hot. Maximal readings of 75° or upwards were frequently reported at the Scandinavian stations, and on Friday, the 18th, the thermometer rose to 81° at Haparanda and to 86° at Hernösand—both places on the Gulf of Bothnia. The last-mentioned reading was no less than 34° higher than the maximum recorded in London on the same day (only 52°). In Dublin the weather was comparatively fine and warmer than in England—the thermometer reaching 66.0° on the 18th and 71.6° on the 19th. On the evening of the latter day lofty cirri were seen illumined by the sun as late as 9 p.m.

In the course of the week ending Saturday, the 26th, a gradual but decided improvement in the weather was in progress over Western Europe. As the week advanced a high-pressure system moved slowly southwards from the N.W. coasts of the United Kingdom, temperature rose generally, and the weather became dry and at intervals very bright. Sunday, the 20th, was warm and fair in Ireland—the thermometer rising to 69.7° in Dublin, even with a N. wind; but in England it was dull and cold. On the 22nd an extensive depression again appeared in the N.W. and N., and at 11 p.m. intensely luminous cirri were seen in the northern sky. These clouds were, no doubt, refracting the sunshine to the northward. A similar phenomenon, in a less marked degree, appeared on the night of the 29th. Pressure remained low in the North until the 26th, but the isobars were not markedly cyclonic, and so very little rain fell, although the winds were high.

On the 27th the barometer rose generally and pressure became uniform, so that magnificent summer-like weather set in and continued to the close of the month. In Dublin light easterly sea-breezes tempered the heat of the sun, but on each of the last three days the thermometer rose to nearly 72° in the screen. Inland the readings were several degrees higher.

PERISCOPE.

TRIGGER FINGER (DOIGT À RESSORT).

AT a recent meeting of the New York Neurological Society, Dr. G. W. Jacoby read a paper on this affection. *Doigt à Ressort* is the name given by Nélaton to a peculiar inhibition of motion in fingers otherwise normal. Flexion and extension are arrested at a given point, and if completed by force, the movement resembles the closure or opening of the blade of a pocket-knife. Sometimes only extension is interfered with. As a rule, muscular effort alone is sufficient to overcome the obstacle. Generally the entire motion is painful, particularly at the time of the snap. The patient usually locates the pain in the interphalangeal joint, but a careful examination will show that it is at the metacarpophalangeal articulation. Externally the finger presents nothing abnormal; but pressure over the last-mentioned joint almost always produces pain, the painful point being usually confined to a small place upon the volar surface of the flexor tendon. In all cases except those of Busch and his own, a hard lentil-sized body, which was particularly painful on pressure, was found attached to the tendon about two centimetres above the digito-palmar fold. All authors lay stress upon the presence of this body, as it is, according to all theories of the mechanics of this phenomenon, essential to its production. In Dr. Jacoby's first case he did not remember to have found any nodosity, but as he did not pay particular attention to it, it may have been overlooked. In his second case, however, knowing of the cases of Busch, and of Marciano's criticism on them, he made a very careful examination, and could say positively that there was no nodosity or abnormality of any kind discoverable. He saw his first case in 1881, but did not make a diagnosis. The patient was a female servant, who almost continually had her hands in water. She had had vague rheumatic pains for years, but had never had an attack of acute articular rheumatism. About six months prior to her visit to Dr. Jacoby, she began to have a peculiar tingling sensation in the ring-finger of the left hand, with shooting pain upward in the arm; she also complained of weakness of the finger and difficulty in flexing it. There was, however, no distinct *ressort* until two months before he saw her; then

she was unable one morning to close the finger, and in attempting to aid herself with the other hand, the finger suddenly snapped shut. Dr. Jacoby saw her only once. The second case was that of a clerk, aged twenty-eight, whom he saw in November last. The middle finger of the right hand was affected. There was no apparent cause; the patient had never had rheumatism, nor sustained an injury of the finger. The phenomenon came on very suddenly while he was engaged in writing and was very much fatigued. He made his own diagnosis of writer's cramp, and a physician whom he consulted coincided with this diagnosis. Upon examination Dr. Jacoby found the peculiar snap to be well marked, and the patient was unable either fully to extend or flex the finger without the aid of the other hand. Both flexion and extension caused severe pain. Pressure over the metacarpo-phalangeal joint was painful. Repeated and careful examinations failed to reveal the presence of any nodosity or irregularity whatsoever. The treatment consisted in the application of the galvanic current, but after a few sittings the patient disappeared from under observation. The affection has been described, and cases published successively by Notta and Nélaton, by Fenerly, Arrachart, Busch, Annandale, Dumarest, Hahn, Menzel, Fieber, Vogt, Blum, Felicki, Herraiez, Leisrink, Marcano, and Largeau. The only reference to it which Dr. Jacoby had been enabled to find in any English or American periodical was a translation of Menzel's article, published in the *Boston Medical and Surgical Journal*, 1874, and the description of a case by Annandale, which, however, he evidently did not recognise as a case of *doigt à ressort*. Dr. Jacoby gave tables of thirty-three cases by different authors. Twenty-one cases were in women and only ten in men, in two the sex not being specified. All the cases were in adults, excepting two. Occupation seemed not to have any influence in the production of the malady. The fingers affected were the thumb sixteen times, the ring-finger fifteen times, the middle six, the small finger twice, and the index-finger only once. In five cases more than one finger was affected. The ætiology must, in the majority of cases, be sought in rheumatism; next in traumatism. In some cases no direct cause could be found. The diagnosis was easy. The prognosis was generally fair, as the symptoms usually disappeared after several weeks of appropriate treatment.—*Med. News*, June 19.

TREATMENT OF SWEATING OF THE FEET.

DR. HEBERT gives, in the *Journal de Médecine et de Chirurgie Pratiques*, No. 2, 1886, the details of a method first suggested by Dr. Legoux, which he has found most efficacious for the relief of sweating of the feet. For three days the feet are bathed, for half an hour at a time, morning and evening, in tar-water. At the end of the third day the pediluvia are omitted, and the soles of the feet are painted with

perchloride of iron. After four days more the epidermis of the soles is found to be dry and hard. Dr. Hebert succeeded in obtaining a complete cure by this simple means.—*N. Y. Med. Record.*

HYOSGIN HYDROBROMATE.

IN a paper by Henry M. Wetherill, jun., M.D., read before the Philadelphia Neurological Society, that observer stated that hyoscin hydrobromate is freely soluble in cold distilled water; but it will be found desirable to add to this menstruum ten per cent. of alcohol as a preservative. He has found the following to be a convenient formula:—*R.* Hyoscin hydrobromide, one grain; distilled water, $\text{f } \frac{3}{4}$ ix; alcohol, $\text{f } \frac{3}{4}$ j.—*M.* In every ten minims of this solution there is $\frac{1}{50}$ of a grain of the hyoscin hydrobromate. In prescribing the compounds of hyoscin care should be used in writing the name of the salt in full and plainly, so as not to mislead the pharmacist with the impression that hyoscyamin has been ordered, and *vice versa*, as the hyoscin salts are far more powerful than are those of its sister alkaloid. In regard to the results obtained by its use in the hospital, Dr. Wetherill has no hesitation in saying that as a hypnotic and sedative it has proved most valuable in his hands. As a hypnotic the usual range of dose is from $\frac{1}{120}$ to $\frac{1}{90}$ of a grain, given at bedtime, preferably by the mouth—very frequently a less dose than gr. $\frac{1}{120}$ will be sufficient; gr. $\frac{1}{200}$ has often acted better in insomnia than has a larger quantity. It is very seldom necessary to repeat the dose; and another very decided advantage possessed by hyoscin over hyoscyamin is that small doses can be continued for a long time without increase, whereas the patient soon tolerates small and then moderate quantities of hyoscyamin, and finally resists even very large doses of it. He has given it with marked success in the insomnia of *delirium tremens*, and in that of agitated melancholia, of the morphine habit, of alcoholism, of acute mania, of neurasthenia, of chronic mental disorders, with habitual wakefulness and motor activity, and in those confirmed cases of insomnia from unascertained cause which usually prove so obnoxious to treatment, hyoscin has been found to answer a very good purpose. It does not invariably succeed; but the failures have been very exceptional. In many instances the chronic insomniac habit has been broken, so as to permit of the withdrawal of the hypnotic. He also states that its usefulness as a general sedative justifies the assertion that it is the very best means at present at our disposal for calming the motor excitement of acute and chronic mental disorders, in their talkative, active, noisy, destructive, or violent phases. In this class of cases the range of doses may sometimes have to be greater than in the treatment of insomnia, from gr. $\frac{1}{120}$ to $\frac{1}{30}$.—*The Polyclinic*, Feb., 1886.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. VII.—*The Medical Profession in Ireland and its Work.*^a By
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for Dublin; ex-President, R.C.S.I., &c.

THE medical profession in Ireland and its work will be the subjects of the address which, in response to the invitation of the President and Council of the British Medical Association, I humbly submit.

The exhaustive way in which the great questions grouped under the name of public medicine have been treated by my predecessors since the section was founded in Dublin, and by the editor of the *British Medical Journal* has rendered selection of topics very difficult. My choice arose in the belief that reliable information concerning my country would just now interest a British medical audience, and that, being somewhat conversant with its curative and preventive organisations, the limited time at my disposal could be thus best used.

I shall, of course, dwell only on those points wherein our system differs from the British.

And at the outset, perhaps, those fond of ancient lore may be pleased to hear what kind our calling was when (to use the words of a matchless orator) "Ireland had almost a monopoly of learning and piety, and when she nearly alone held up the truths of civilisation, of true Christian civilisation, in Northern and Western Europe." Further, I may plead for interest in bygone ways with

^a Address in Public Medicine, read at the meeting of the British Medical Association at Brighton, August 13, 1886.

the words of our orator who closely follows on the roll, him just quoted.

In the introduction to South's "Memorials to the Craft of Surgery," Sir J. Paget says:—"Many of the things thus told must seem to us very strange, and in this sense amusing, especially if we only think of them as if they were occurring now and under the same conditions as we are living under. A more careful reading will show that the 'strange' things were usually fitted to the times and the circumstances in which they happened; and that, like the organs and the changes in an embryo, and in spite of many errors and defects of human management, they were in progress towards better things." The earlier dwellers in Ireland were very heterogeneous, and battles were constant between the various races. Military surgery must needs have been cultivated. However, I pass by this time of which Diancecht, that is, "God of Healing," was the most renowned, the reliable and the fabulous being too much intermingled in the records.

The Brehon Code of Laws, the most ancient in Europe, dating from the fifth century, lately translated under a Government commission, of which Dr. Graves (now Bishop of Limerick) was secretary, deals largely with medical affairs. The most important of them, *Senchus Mor*, originated with St. Patrick, and for twelve centuries controlled the native Irish, especially while the tribal system prevailed. The provision in them, most worthy of imitation at present, was that the physician sat in the Council of the State. Sir D. Corrigan, our greatest physician, and one of our foremost public men, regarded membership of the Privy Council as vastly superior to titular distinction—yet he was never offered that position, wherein his splendid abilities would have widely served his nation. Sanitary and many other great public works are controlled by this body in Ireland. These Brehon Laws refer to surgeons who lived before the second century. They carefully provide for distress—that is, taxation, for the support of a son taken from his mother's dead breast, for the incurable, for the care of the sick as to food, bedding, nursing, and a house with the wind blowing in all quarters, and with a stream close by. The medical man had power to keep from the sick room "fools and female scolds." The mode of distraint in case of a physician was, "Let his horsewhip and his probes be taken up. If he has not the proper number of such things, let a thread be tied about the finger next his little finger."

The unqualified physician was to be fined if he operated without

getting a guarantee against damages, or without having given notice that he was not qualified. The regular practitioner was to be quite exempt. An impartial physician was to be the judge of the mode of treatment and of the due recompense.

The fees, always paid by oxen, the current coin, were most exactly proportioned to the rank of the patient. Cattle abounded, and as late as 1369 the value of a cow in Dublin was only 3s. 4d.

Injuries were distinguished as the "lump-blow," that is, when swelling followed, and the "white blow" where no ecchymosis resulted. Castration was a dire offence in the case of procreating men, but in the case of old men or clerics quite trivial; simple and compound fractures were plainly separated in fixing fines.

Testing times were laid down for special injuries, within which the doctor or inflictor was liable for damages according as the blame was adjudged.

Penalties were so often assigned for the felonious bleeding of living cattle, that the practice must have been common. In 1770 a great epidemic of diarrhœa raged in Munster, owing to scarcity of food, and the poorer owners of cows periodically bled them, and prepared the blood as a kind of pudding. A similar food, known as drisheens, obtained as the beast is being slaughtered, is to the present a favourite in Cork.

The Royal Irish Academy and the British Museum possess very great numbers of medical manuscripts written in the thirteenth, fourteenth, and fifteenth centuries; and, even as regards historical interest, their translation is most desirable.

In presenting a few records of epidemics in Ireland, it will not be convenient to follow strict chronological order. In 1492, the sweating-sickness raged, and most wondrously differentiated the races, the English settlers alone having been attacked. This has been explained by excess of food and drink; but the profound physiological differences which mark the nervous systems of the Celt and the Saxon have much to do with their relative *capacitas morbi*. Caius recorded that the French were exempt, while the English in France suffered. In all ages, writers, from Strabo downwards, attest the cerebro-spinal activity of the Celt, his mental vivacity and muscularity. In our bogs are often found boughs of oak five inches in diameter, cut by a single stroke of the axe. His proneness to follow a leader, often for no sound reason, was acquired in the tribal system under which he lived.

On the other hand, his vaso-motor and visceral strength has

been lowered by many centuries of scanty food. Saxon immigrants and Celtic emigrants have been in larger proportions males than females, and thus the influence of the Celtic mothers has preponderated in the visceral characteristics of the people.

In 1760 the proportion of the Celt to the Saxon was—in Connaught, nine-tenths; in Munster, five-sixths; in Leinster, two-thirds; and in Ulster, two-fifths. Early in the previous century, the Saxon element had been much greater.

The Celt's weak endurance of climatic change is sadly illustrated at American ports; and shock, that is, impress on the sympathetic system, after great operations—for example, ovariotomy—is far more potent than in the case of the Saxon. Surgical statistics in Paris, and amongst the French in the battles of 1870, mark the same racial feature. Sir J. Simpson asserted that the potato-fed Irish, the oat-fed Scotch, and the rice-fed Hindu bear operations well; but theirs is the kind of endurance to be tested by the septicæmic thermometer, which, at the other end, indicates the constitution of the brewery vatman.

As to the sixteenth century, many of the surgical injuries were scarcely reparable. Lord President Sir Henry Sidney reports to the Privy Council: "They fight for their dinners, and many of them lose their heads before they be served with their suppers." It was upon this Viceroy that lithotrity was first performed—namely, in 1559, at Dublin. About this time all social ties among the native Irish were fearfully disorganised—for pay the father fought the son, the son the father. The entire population of the country was only half a million. It is believed to have been three millions before the English invasion.

It does not appear that the ancient Irish were largely addicted to intoxicating drinks, and they were mainly ale and mead. Stanihurst, who was not a native, in his *Dieta Medicorum* (1550), bursts into extravagant praises of whisky:—

"It drieth up the breaking out of hands, and killeth the flesh-worms; it scoureth all scruf and scalds from the head, being therewith washed before meals. Being moderately taken it sloweth age, it strengtheneth youth, it helpeth digestion, it cutteth phlegm, it abandoneth melancholie, it relisheth the heart, it lighteneth the mind, it quickeneth the spirits. It keepeth and preserveth the head from whistling, the eyes from dazzling, the tongue from lisping, the mouth from maffling, the teeth from chattering, the throat from rattling, the hands from shivering, the sinews from

shrinking, the veins from crumpling, the bones from aching, the marrow from soaking."

To this day there is a universal belief among the vulgar as to the preventive and curative effects of whisky in the onset of acute disease.

According to Dr. Rutty, there were in Dublin, in 1749, 3,500 drink-shops in a population of about 150,000. The habit of taking drinks and giving them as a treat, without using food at the same time, has been, amongst the underfed poor, always rife in Ireland more than elsewhere, and as it was new whisky, taken occasionally, not habitually, excitement and violence often arose.

J. Howard tells us that, in the Irish prisons, whisky was procurable in any quantity at the price of 4s. per gallon. In 1772, the Foundling Hospital was supplied with beer at 1s. per ten gallons—stuff, it must have been, which could not have induced children to acquire habits of alcoholic indulgence.

At present, amongst the humbler rural population, alcoholic diseases are not comparatively frequent, but they are amongst the middle classes. It is remarkable that not one retreat for the treatment of dipsomaniacs has been set up. The clause prohibiting their being owned by the proprietor of a lunatic asylum seems to me unwise. In cities where our emigrants have settled in large numbers, drink is, alas! a very potential cause of mortality. In New York, deaths by alcoholism and by Bright's disease are said to be thrice as numerous amongst the Irish as amongst the Germans. In that city, greater crowding, and more scantily clothed and unwashed bodies would seem to have influenced the mortality by phthisis and bronchitis, for it is nearly twice as great in the former as in the latter race. Over half the deaths in New York occur in the tenement-houses, which are there defined as buildings in which more than three families reside. I regret that, in American towns, it is often found that death-rates are in direct ratio to illiteracy, and illiteracy to Irish element of population. The general election of 1885 brought out the melancholy fact that one in four and a half of the voters in Ireland was illiterate. In Donegal county, the proportion was 8,424 to 19,183. Only 1 in 58 of the electors of Scotland was unable to read and write.

Starchy food has much to do with our high phthisis-rate; and there is more of it in the tea and bread diet which has been substituted for the milk, egg, and potato *menu* in vogue before the famine of 1847.

Since Strabo called us *ποηφάγοι* ("poephagi"), herb-eaters, our peasant's food has often been too bulky. The teeth in ancient Irish skulls are worn like those of horses, and more bronze sickles have been found in Ireland than in all the rest of Europe. In the famines of 1822 and 1846, wood-sorrel and other wild plants were resorted to, when the treacherous potato failed. On the other hand, eight or ten centuries ago, animal food aided largely the physical prowess and the mental eminence of the Irish, for then the flesh of the game they hunted, beef and butter, were plentifully used. Casks of this latter food, converted into adipocere, are often found in bogs.

It is hard to believe, yet it is true, that so ill-practised is the cooking art, that potatoes, the staple food, are often served, turnip-like and water-logged. In 1864, Dr. E. Smith, who was commissioned by government, reported that the weekly consumption by the Irish farm-labourer, and of his English fellow, were, in ounces—

	Irish	English
Bread-stuffs, . . .	326 . . .	196
Potatoes, . . .	92 . . .	96
Meat, . . .	4·5 . . .	16
Milk, . . .	135 . . .	32
Fats, . . .	1·3 . . .	5·5

This return is erroneous as regards every item.

For the seventeenth century, Irish medicine has not much to call into court. Allen Mullen's discovery of the ciliary vessels and nerves, Robert Boyle's statement that the blood clots by the loss of an alkaline spirit, Sir Hans Sloane's pre-eminent position in science, and Thomas Proby's great surgical skill, are all that are noteworthy. The descendants of this surgeon and of Ralph Howard, Professor of Physic, in 1674, in the University, are, respectively, Earl of Carysfort and Earl of Wicklow, and each owns a side of the Vale of Ovoca, a classic spot amongst those which my countrymen hope may tempt their British brethren to brave the three hours' voyage across the channel. The notable medical man of the century was Sir P. Dun; for, by having insisted, against the advice of many surgeons, that the wound of William III. at the Boyne was trivial, he contributed much towards the winning of that battle so eventful. A knighthood and large grants of forfeited lands were his rewards, the latter serving good purposes in Dublin to the present day. On con-

dition that Dun's endowment was to be for one chair only in the College, Albinus, Haller, and Van Swieten, became candidates, and offered to test their merits by competitive examination. The Act of 1741, however, subdivided the professorship, and thus was lost the opportunity of gaining the greatest anatomist, the greatest physiologist, or the greatest pathologist of the first half of the eighteenth century—any one of whom would have created and fostered such enthusiasm, that Dublin would have become a famous seat of medical science. Until the time of James Macartney, she could not lay claim to such distinction. An eloquent notice of this anatomist formed part of the address of Professor Macalister in opening the Anatomy and Physiology Subsection of the Academy of Medicine in Ireland.

As is often the case, Irishmen shone more brilliantly abroad than at home, and the most famous of the medical emigrants was Neil O'Glacan, an able writer, who filled successively the chairs of Physic in Toulouse and Bologna. He was, in 1629, Privy Councillor to Louis XIII., King of France, a monarch who enrolled himself as "Master Surgeon."

Dr. (Sir) W. Petty was not born in Ireland, but spent the last thirty-five years of his wondrously active life there. He became all-powerful, and amassed great wealth, endowing the Lansdowne family, of which he was the founder. He had been Professor of Anatomy, at Oxford, and his greatest work, written in 1672, he styled "The Political Anatomy of Ireland." The preface discusses "The Body Natural and the Body Politick, and the arts of preserving both in health and strength; it is as reasonable that, as anatomy is the best foundation of the one, so also of the other; and that to practice upon the politick without knowing the symmetry, fabrick, and proportion of it, is as casual as the practice of old women and empirics. Furthermore, as students in medicine practise their inquiries upon cheap and common animals, and such whose actions they are best acquainted with, and where there is the least confusion and perplexure of parts, I have chosen Ireland as such a political animal, who is scarce twenty years old, where the intrigue of State is not very complicate, and with which I have been conversant from an embrion." If he were there to-day to anatomise her, his tone would be less confident.

From many mediæval plagues Ireland, owing to isolation, appears to have been spared; but in respect of others, as elsewhere, there was enough in domestic conditions to account for their malignity

without appealing to atmospheric or telluric influences. Open houses, called betaghs, to which all classes were welcome, helped much to spread contagion.

Typhus has had its home more in Ireland than in any other country; and the vastness of its diffusion was such that, during the epidemic of 1818, a million and a half of cases were recorded, and in that of 1846-7 there were treated in hospitals 579,721 individuals. You will see how widespread was distress by the fact that, during July, 1847, 3,020,712 separate persons were given cooked rations. The population was under seven millions. The traits of the people became changed; thieving, unknown before, was usual; sadness reigned, and the national pastimes died out.

Drs. Barker and Cheyne, in their truly classical work, assign as a cause of the fearful famines and fevers which raged during the eighteenth and the first quarter of the nineteenth century, "the high price of land artificially created by land-jobbers, and the vast income drawn from the country by absentees, the deadliest foes of Ireland." Many of the famine- and fever-stricken people perished for want of the aid which a resident gentry could have afforded, and appeals to the absentee landlords in England or the Continent usually had no response.

Dr. Cheyne was Professor of Medicine in the School of the College of Surgeons, and his advanced scientific position will appear from the fact that he recorded the axilla and mouth-temperature of 250 cases of fever during the summer of 1817. Sir C. A. Cameron, in his "History of the College," details the circumstances which led Dr. Cheyne to settle in Dublin:—"He states that he found the profession respected, chiefly, no doubt, owing to the eminent physicians who had flourished during the previous half century—for example, Dr. Smith, remarkable for his munificence; Sir N. Barry, whom Mr. Grattan characterised as the most accomplished gentleman he had ever known; Dr. Plunket, the witty and learned brother of the Lord Chancellor. He found the Dublin physicians, mostly belonging to Cullen's school, relying chiefly on symptomatology, and paying but little attention to pathology. Much of the purely medical practice was passing into the hands of the surgeons." His invasion was successful, as he attained the most lucrative practice ever known in Dublin. Just now there is much more cogitation about emigration than immigration as regards that capital.

How our profession suffered will appear from a few figures. Between 1818 and 1839, 560 physicians had fever; and, in 1847, 123 died of it, the latter being a rate 35 times greater than the fever death-rate of the people in general. The poor emigrants, during the latter epidemic, were fairly said to have made Liverpool "the hospital and cemetery of Ireland," for its death-rate became 63·5—double its average, and the highest of any modern city. During that year, 400,000 Irish entered Liverpool, of whom 70,000 stayed there, overflowing its already crowded tenements. Corrigan had foreseen the sequence of famine and fever; and Virchow, in his *Hunger-Typhus*, extols our great countryman, and laments that "Ireland is even to-day (1868) the land of famine, of typhus, and of emigration."

The circumstances of the cholera-epidemic with us must convince the most sceptical of the portability of the disease. On July 26th, 1866, as coroner's witness, I was directed to see the body of a girl who had died, it was believed, after seven hours' illness. Although I had never seen a case of cholera, the blue shrivelled skin and the ejecta showed what was to be dealt with. In the morning she had arrived from Liverpool by the ordinary passenger-boat, and had vomited, it was supposed, from sea-sickness. Her dwelling there had been the seat of several cases. A wake was held, for we had no power to prevent it, and exhortation was useless, as they believed she had died of no catching disease. Owing to the exertions of Catholic clergymen, these dangerous meetings are now rarely held in towns. Her death was followed by those of three other persons. One, while ill, had used a privy in a house a mile off, whither he had gone to buy the coffin. In that house the next case occurred. Further, an early victim was a woman who lived a mile and a half away, but dealt in the place first attacked. From these several foci the contagium was quickly disseminated. Out of 923 victims, only three belonged to the better classes in Dublin. It is a curious coincidence that our magnificent water-supply was distributed on the same day that the last case of cholera arose. The only striking fact shown by a map on which the site of every case was marked, was that the beds of old diverted streams were most favourite habitats. This may have been owing to the lower level, or to faecal impregnation of the soil. Very many places in Ireland have defective water-supplies. I see many cases of illness in country patients due to extreme hardness of water. In 1880, the water of a favourite spring in a large town had 385 grains of solids per

gallon, and that from a well in a fashionable Dublin suburb gave 22 grains of organic matter. It was largely fæcalised.

In the year 1867 we had a brief but fierce epidemic of cerebro-spinal meningitis. Not one ætiological fact was made out then, nor do I believe since, as regards this malady.

If cholera or small-pox again threatens us by sea, it is not certain that they could be efficiently met by the machinery now in working order. Observation-, or it may be quarantine-, hospitals in isolated positions—such as, for Dublin, the Pigeonhouse-road; for Liverpool, New Ferry; for London, the floating hospital at Purfleet—could alone cope with such an impending disaster. Undoubtedly such provisions for occasional use must be kept, while they are despised as useless. In 1876 we equipped a vessel in our river; but, having been only twice used, it was given up. In 1883 it intercepted a virulent case of small-pox, which otherwise would probably have caused an outbreak. A ship from Riga came in without flying the yellow flag, although the ailment of one of the crew was apparent. He was removed at once to our hospital-ship, and a young medical man remained with him, without intermission, till recovery. The clothes of both were then burned, and the doctor swam to the shore, where he put on new garments. Small-pox has fluctuated remarkably in Ireland during the past twenty-five years; the maximum, 10,317 cases, was in 1872; the minimum, last year, 18 cases. In the former year the virus had exhaustively searched for its unprotected victims.

I could present to you a view of the health of the Irish people in no way so clear as by a brief summary of a paper read last year in the Academy of Medicine by Dr. Grimshaw, our Registrar-General. During the decade 1871–80, the mean civic population (that is, those dwelling in unions wherein there were towns of 10,000 people and upwards) was 1,476,929, and the death-rate was 22·5. On the other hand, the rural population was 3,816,678, and its death-rate 16·6. Had it been up to that of the town people, about 22,000 more deaths would have occurred. Of counties, the extremes are—Mayo, 13·9; and Dublin, 26·2. The only possible source of error is, that the registration may be less complete in the sparse than in the crowded districts. On the census-night, the rate of the temporarily sick was 10·5 per 1,000 in the case of the civic, 6·6 in that of the rural, population.

As townspeople have better houses, purer water, improved sanitary appliances, and more efficient medical care, they should be

healthier, were it not that condensation vitiates the air, that their occupations are less healthy, and that there is greater proneness to intoxication and other evil habits. Of course, infective diseases prevail more in towns than in the country, and the figures are respectively 3·2 and 1·8; but, as regards phthisis and other respiratory diseases, an excess on the same side appears. The deaths by phthisis were, per 1,000, 2·8 amongst the civic, 1·6 amongst the rural, and by other diseases of the breathing organs 3·8 and 2·3. The magnitude of these ratios will be seen when it is stated that these two causes together produce over one-fourth of the deaths in Ireland. Preventable ills in my city promote phthisis, but its low level and climate must also be blamed. Dr. J. W. Moore, a most reliable observer, describes the latter as follows:—“In the fullest sense an insular one, free from extremes of heat and cold—except on very rare occasions—and characterised by a moderate rainfall (about twenty-eight inches) annually, which is distributed, however, over a large number of days (about 195 in each year). Clouded skies, a high degree of humidity, and a prevalence of brisk winds, chiefly from westerly points of the compass, make up the climatology of the Irish capital.” The great moistness of the climate of Ireland in general accounts largely for the prevalence of phthisis. The stimulating and oxidising sunlight is interfered with, and cutaneous action is checked.

With regard to two single items, Dr. Grimshaw shows that the risks of childbirth, owing to want of skilled attendance, are greater in the rural than in the urban districts; and that in our great factory town, Belfast, the conditions of life tend powerfully to promote phthisis. The death-rate for the whole country last year was 18·4, and the average of the decade was 18·3.

The sick poor in Ireland are better cared for than in any other country, thanks to the Medical Charities Act of 1851. Before the establishment of the Poor Law, the arrangements were most imperfect and irregular—for example, in 1836, in the County Mayo, which is seventy-two miles by fifty-eight, the travelling too being of the hardest, but one dispensary existed. Such institutions were supported by a small grant from county cess, and by subscriptions, in the collecting of which by the medical officer there was much humiliation. The Poor Law Commissioners, in their first Report on the Dispensaries, 1853, declare—“There is now afforded to those officers a practical and sure means of protection, provided they avail themselves of it, against an abuse most fatal

to their professional interests, which prevailed extensively under the former system, whereby many contributors to this tax were permitted to look upon themselves, their families, and dependents, as peculiarly the objects of the charity; and led them to expect attendance and advice in return for their subscriptions. We trust that all tendency to abuse of this nature may, under the present law, be effectually suppressed by a judicious and firm exercise of the power possessed by Dispensary Committees, to cancel tickets for Medical Relief given by the individuals authorised to issue them to persons not entitled by their position to receive it, and by the publicity which may be expected to arise from discussions in the Committee on such occasion." In 1841 they had reported that persons holding one or two hundred acres had sought gratuitous medical relief!

The great want now is the provision of cottage hospitals, into which infective cases could be taken. In the sparsely inhabited parts, a fever hospital for a county is useless at perhaps twenty miles distance, the more so as there is nothing in the shape of an ambulance-wagon for reaching it. The fever hospitals already provided have had the most signal effects in lessening this great cause of death and pauperism.

At present the medical officers of workhouses and dispensaries number over 1,000, being about half the practitioners of the country; in a few places the two posts are held by the same person. They must be qualified in medicine, surgery, and midwifery, and, until lately, should be twenty-three years old. This restriction, still in force for workhouse medical officers, has excluded many, as entry into the far more desirable public services may be obtained when they have got their licenses from the medical authorities, in all of which twenty-one years is the standard.

Their duties were well summarised in an Address given by Dr. Jacob, in the State Medicine Subsection of our Academy last February. Including care of the sick and vaccination, they yearly treat nearly a fifth of the whole population, while they register about 126,000 births and 96,000 deaths. The visits paid last year were 595,486, of which nearly one-third were at the patients' homes.

The emoluments to medical officers, including vaccination, were £99,787, and £2,836 to apothecaries.

The appointment has been heretofore decided by local interest, but I have for many years advocated the competitive system,

which has told so well in the other public medical services. There are, of course, great differences. The military officer obtains uniform pay, and follows a moving population—a dispensary medical man might have to settle in a poor district, in which severe labour earns £150 yearly; another might at once obtain a small but well-to-do practice, where one-third of the work will gain three times the income. A half-yearly competition under the Local Government Board would establish a roll of merit. Vacancies, as they occur, might be filled, the probationers meanwhile acting as assistant officers to workhouses, many of which are now undermanned. There are difficulties, of course, in the working of such a system—for instance, it would be lamentable that a brilliant man should be wasted on a dismal western district; and promotion for high marks or good service from one district might imply the severance of social and confidential ties which quickly bind together the physician and his patients. The change should never be compulsory, but a good man should be given the option of taking a vacant place.

The system having been organised a few years after the great famine, 1846 to 1849, far more persons were then entitled to free attendance than in such prosperous decades as from 1869 to 1878. Land legislation having more clearly defined the classes who ought to pay, the medical man is applied to by individuals who should be paying patients on a scale of which the poor-law valuation should be the basis. In the beginning of each year a list of those entitled to free relief might be made out in each district.

In England and Scotland the relieving officer applies the rigid test of pauperism for gratuitous medical care and drugs.

The remedy—that is, cancelling a ticket—comes too late, and is little used, as only about 500 are thus dealt with out of three-quarters of a million issued.

The expenditure on drugs and on medical appliances was last year £27,653, a sum vastly above the rate in other countries, and yet it is believed that their quality is very inferior. It was proposed, with much reason, that they should be contracted for to serve the whole country. In a central dépôt these articles could be examined as to purity and fitness, and then distributed to the unions as a contribution from the Consolidated Fund (in the same way as is a proportion of the medical and other salaries); or their value could be annually charged to each district according to consumption. Another plan which would tend towards ensuring that

the drugs were not only pure, but well kept, would be the employment of inspectors, experts in pharmaceutical analysis, to visit periodically the workhouse pharmacies and dispensaries.

The right of pension to poor-law medical officers, on the grounds of length of service or proven ill-health, as in the case of other civil servants, should be conceded; several instances of grossly harsh refusals have arisen, and many a septuagenarian has been kept in very galling harness. All unions in which the officer had served should contribute, and the State should in all justice pay the same proportion towards the maintenance of the worked out, which it does to that of the working, medical man.

The amalgamation of unions in the more thinly peopled districts is now forcibly advocated, and, if such take place, enactments should provide for compensation or transference of the medical officers of the suppressed union. It was lately held in the Queen's Bench that no such power exists. At present there are 87 annuitants receiving £6,956, the average being £79 9s.

It has occurred to me that the extension of the Post Office Assurance system to the granting of weekly stipends in cases where the assured were sick or maimed, would be most desirable. The comparative adoption of that Act in England and Ireland is, however, not encouraging; for of the insurances effected since 1865, only one-fourteenth have been in Ireland, where the inconveniences of the benefit societies are so universally felt. Incorrect entry of age, the delay, trouble, and expense of getting the money, such waste in salaries that a canvasser is paid 15s. weekly if he brings in 24 penny subscriptions, are faults greatly complained of. Their shakiness may be fairly judged of by the fact that over 10,000 friendly societies failed in the ten years 1856 to 1865, and the substitution of some sound system is called for.

My English hearers will be surprised to learn that provident dispensaries are unknown in Ireland, except in a few of the larger towns.

As far as I can judge, the Poor Law Medical Service in England is not as well organised as with us. Mr. Rivington, in his Carmichael Essay, calculates the average payment to each medical officer for attendances, drugs, and appliances, at £69, and that an average of 149 poor persons are under the care and supervision of each at a time. This number is, however, owing to caprice of guardians and other causes, most unequal—often four times greater in some districts than in others.

It is manifestly better that the practitioner should, as with us, be supplied with drugs and surgical appliances. In our two Colleges, any pecuniary interest in them is forbidden in the declarations which their Fellows make. The picture of the dispensary system in the north of Scotland, given in the same authoritative work, is astounding in respect to size and inaccessibility of districts, smallness of pay, and insecurity of appointment. In the remoter districts in Great Britain, the system in force in Ireland for building residences for the medical officers might be very usefully copied.

During the past six years social changes have taken place in the rural districts which call loudly for alteration in the payments to practitioners. Notwithstanding the reduction of rents, the farmers and the shopkeepers have become less able or less willing to pay, and the landowners, who were generous patients of the local medical men, or of Dublin consultants in critical cases, have left Ireland in great numbers. The general practitioner system, as known in England, where separate charges are made for advice and for medicines, has scarcely any representatives in Ireland. In Dublin a few most estimable gentlemen connected with the Apothecaries' Hall follow it; but, throughout the country, for the guinea fee one or more visits, according to distance, are given, and the drugs are included. Neither has counter-practice—that is, the selection by the chemist of drugs according to the name of the patient's complaint—much hold.

Notwithstanding lessened population and greatly lessened wealth in the country, the number of practitioners entered in the *Medical Directory* has increased, having been, on the passing of the Medical Act, 1,836; in 1872, 2,384; it now is 2,501.

The proportion of practitioners to each 10,000 of the people in England was in each of the three last censuses as follows:—8·5, 7·2, 6·4; and in Ireland, 3·7, 4·1, 4·5. Our estimated population is now 4,924,342, or less than three-fifths of what it was forty years ago, before the famine. In nine counties—Galway, Kerry, Meath, Westmeath, King's, Queen's, Kildare, Wicklow, and North Tipperary—the population is less than 100 per square mile; and in two of them—Meath and Kildare—over 15 per cent. get poor law relief. According to income-tax assessment, the distribution of wealth varies in Ireland astonishingly. In one county—Dublin—it is per inhabitant £10 14s. 4d.; in another—Leitrim—4s. 5d.

As it is now a popular cry that we should revert to past modes of relief for the poor, I may refer to the Act II. of Anne, by which the workhouse was set up in James-street, Dublin (which afterwards became a foundling hospital only). The beggars taken up were lodged horribly, treated cruelly, and finally transported beyond the seas. I may refer also to the Act of George III., 1772, which established corporations in every county and city, who might license by badges such helpless poor as had lived in the district a year to beg therein. Our cities and towns soon swarmed with most miserable objects.

In 1787 Lord Clare said—"I agree with Mr. Grattan that the lower order of the people in Munster are in a state of oppression, abject poverty, sloth, dirt, and misery, not to be equalled in any other part of the world."

The machinery for the relief of the acutely sick about this time was sadly imperfect. The county hospitals were all visited by the immortal John Howard. I will only note his report as to the state of one:—"All the rooms very dirty; little or no bedding; an upper room full of fowls; a dunghill in the small front court." As to the appointment of officers, he says of another:—"I am well informed that the surgeon spent £500 in procuring votes to ensure his election. The same scandalous abuse by which the lives and health of the poor are in a manner put up to auction prevails, as is well known, in many of the London Hospitals."

Now the county infirmaries are efficiently and most economically managed. Nearly one-third of their support is from private benevolence, and more than half the inmates come from homes over five miles distant. The cost per bed is £37 yearly, and per patient £2 10s. In the Dublin hospitals receiving Parliamentary grants, the average cost per bed is £54. For many years, there has been an agitation for the closing of our county infirmaries, the workhouse hospitals to be alone maintained.

For the treatment of acute diseases and accidents arising amongst the artisan, smaller farming and trading classes, and higher servants, the county institutions are clearly needful; and perhaps some small payment by or on behalf of the patients should be demanded in aid of the public rates. Corrigan often forcibly urged that "sickness should not be made a chain to drag a man into a poorhouse." Including all kinds of hospitals except those of the workhouses, there are 6,484 beds available in all Ireland, and 3,130 were occupied on the Census night, April 3rd, 1881.

Time would not allow my discussing the peculiar features of the clinical hospitals of Dublin, and indeed it would not be proper to do so, as they are being investigated by a Government Commission. I will only recall the fact, so creditable to our profession, that many of them were endowed by the fortunes of medical men—Dun, Steevens, and Mosse, for examples.

There is, probably, no city in the world in which hospitals are so numerous as in Dublin, there being ten, besides obstetric and ophthalmic ones. Of course, they benefit patients from distant places besides the city population, which is only 249,602. By this distribution of hospital relief, cases which it would be risky to convey long distances are served, but the materials for clinical study are too much subdivided. Lord Spencer appointed a Commission to inquire into a project for amalgamation, but it has not yet reported. I have suggested that two or three hospitals should unite as to their teaching and classes. As there are altogether thirty-seven hospital-surgeoncies, that office is easily, perhaps too easily, obtained.

The number of medical students in Dublin averages 1,300; but fewer of these are engaged in real hospital-work as clinical clerks and dressers than should be. One reason with shame I confess—namely, that persons following other occupations from ten o'clock till late in the afternoon are permitted to pose as students of medicine. There is no restriction as to the number each physician or surgeon shall have under supervision. In 1702, a by-law declared that no surgeon at St. Thomas's "shall have more than three cubbs at one time, nor take any for less than a year." Very large sums were gained by Dublin surgeons in the first third of this century as apprentice-fees. During his career, Mr. Cusack entered seventy-eight apprentices on the College-books, each of whom paid him about £400.

I will not describe the character of the clinical teaching, but quote Sir W. Bowman, who had frequent opportunities of observing it. He said at the meeting of the British Medical Association in Dublin, in 1867 :—"The eminent spirit of Dublin as a clinical school of medicine and surgery has been perhaps less appreciated than it deserves by the world at large owing to its geographical position, somewhat aloof and insulated from the ordinary tracks of travel. The system of teaching was eminently honest, scientific, and practical, laboriously and richly turning to the best use of science and instruction great opportunities, the teachers exhibiting

themselves to students as students themselves in the great field of nature." We are not much given to specialism; for instance, there is no institution which treats skin-diseases exclusively. Dr. Barnes lately wrote of "the unrivalled advantages which Dublin possesses for clinical obstetric work and the fame of its teachers." In the general management of our hospitals, the medical staff take little or no part, and in the Act regulating Sir P. Dun's Hospital it is forbidden that they shall.

Just before the Irish College of Surgeons was founded, there were in Dublin sixty-eight surgeons and forty-four physicians, and under some of these the soldiers had been placed; for, the barracks being in bad repair, houses in various quarters were hired. The Army Medical Board was then organised mainly by the energy of George Renny, who retired from the Director-Generalship of Hospitals in 1847 after service, on full pay, of seventy-two years—a period of active employment probably never exceeded in our or any other profession. A portrait, a splendid work of art, in my College attests the feelings which his contemporaries entertained towards him.

I may mention that the penal laws, which excluded Catholics from most important callings, did not control entrance into the medical ranks. Of that creed was Lord Trimleston, who practised physic actively during the middle third of last century.

Sir Philip Crampton stated that, when he was beginning practice in Dublin in 1805, he was told by Richards that the entire surgical fees of that city could be only estimated at £10,000 a year, nearly half of which he was receiving, and three others divided the rest. The pure physicians earned about £21,000, Dr. Percival's share being nearly one third.

If there had been death-registration in Dublin during the final ten years of last century, its disclosures would have been terrific. During 1791–97, six hundred syphilised children were said to have died in the Foundling Hospital, and one only to have recovered. Many of them had the virus when admitted, the rest contracted it by unwashed feeding utensils or clothes. However, a Committee of the House of Commons inquired, and having found that want of decent care and of curative treatment had caused this wondrous mortality, ordered the dismissal of all the medical officers. It was reported that infants lay "three and four together in filthy cradles with covering insufficient to preserve vital heat at an inclement season, and remote from fire," and that the matron, having been

appealed to, said, "Those children were just laid there to die." It was fairly concluded that this was more than savage cruelty, reflecting on humanity and national character. In a Report to the Local Government Board, 1875, Mr. Wodsworth, who had taken most benevolent interest in the case of the survivors, states:—"Infants from all parts of the country, and at all seasons, were brought up in batches of eight or ten in kishes or creels," and frequently died on the road after terrible sufferings. In 1826, Parliament voted £37,350 for the maintenance of children—nearly seven thousand—supported by this notorious institution.

Wakefield described the Charter School children as puny beyond belief; and Whitelaw, our reliable historian, found the tenement houses filthy and filled to an amazing extent. In 6 Braithwaite-street, an eight-room house of average size, he counted 108 inhabitants. Seventy years afterwards I found in the air of a room in the same house (thirteen persons having slept therein) three times as much organic matter as in that of the College of Surgeons dissecting-room, in which there were eight subjects.

Prior to 1864 Ireland had no death-registration, which had been at work in England for twenty-eight years, with most palpable benefit; no sanitary power even to the extent of thinning an overcrowded tenement.

In 1865, I attempted to depict the sanitary state of twenty-nine towns in various parts of Ireland, their death-rates and their status of disease, as shown by fever cases and the cases of cholera in 1832, 1849, and 1854. I will cite a few striking figures:—In Gort, of 3,056 inhabitants, one-half suffered cholera in 1849; in Ballinasloe, of 4,934, the same proportion; in Kinsale, of 6,918, one-sixth; in Kells, of 4,205, one-twelfth, all within seven weeks. In Navan, in 1818, one-fourth of the people had typhus. In all these instances, bad water-supply and worse housing were the palpable promoting causes of these pestilences. Steps are being taken much more actively for improvement of the latter evil than the former. Last month it was reported that the water for Dungarvan (population 7,391) was carried in barrels from a spring a mile off and sold. It was scantily used, and the sewers were never flushed.

In 1864, prosecutions for nuisances were most infrequent; for examples, one each in Clare, Leitrim, Fermanagh; and, in King's County, not one during that or the following year.

Since 1876 the Local Government Board has sanctioned loans, mainly for works for water-supply and sewerage, to the amount of

£1,547,169. The economical advantages of this system of home-inquiry will appear when I tell you that two Parliamentary Committee contests (in both of which I was a witness) cost Sligo half the sum estimated for water-supply, and the bill was finally thrown out. In the cholera epidemic of 1832 this town suffered more than any other town in Europe, 1,232 of the 10,000 inhabitants having been attacked, and seven of the nine medical men having died.

Of all sanitary bills the most radical was that printed on June 2nd for four medical members—Dr. Farquharson, Sir H. Roscoe, Sir G. Hunter, and Dr. Cameron—"For the better sanitation of dwelling-houses, schools, hotels, hospitals," &c. All such were to be registered, after they were certified, to the local boards by engineers or medical men qualified in sanitary science, as being in a satisfactory state.

As to inspection of the sanitary state of rural districts, I fear the unions in nine-tenths of the country are unable to pay for any improvement. If they become able, or if a paternal government becomes paymaster, the system of health officers for large districts recompensed handsomely for the giving up of other emoluments must be adopted. Meanwhile, in Ireland, sanitary inspection has been done with great public spirit by the dispensary officers; for so wretched was the stipend that it could not weigh.

Distinctions in battles against epidemics should surely be as readily won as in warfare, where the motives are not so noble. That the want of them does not cause the heroic fire to die out attests the humane spirit which actuates the medical soldier. I was much amused in reading in the Address of the President of the Law Society, which appealed for honours for that profession, the sentence—"A medical man, besides making a fortune at his profession, might look forward to being made a baronet, perhaps even to a peerage." Three weeks ago, on a public occasion, one of our most eminent judges called ours the "noblest amongst the lay professions;" but he could not have shown that there was practical appreciation of such characteristics as compared with that which his own profession receives.

The steady decrease of fever cases, treated by poor-law officers, must be largely attributed to the working of Public Health Acts and the spread of sanitary knowledge. The number for 1865 was 25,566; for last year, 5,780; and 1,664 deaths by that disease were registered.

The earnings of the poorer cottiers, by labour in England during the harvest, have been greatly lessened by the use of machinery.

In 1841 the rural population was 7,000,000, and 8 per 1000 of them migrated to England for wages; now it is 4,000,000, while but 5 per 1000 leave their homes for this purpose. These figures relate to the whole country; but in the west things are as bad as they were before the calamity which befel us in 1846-51. No less remarkable a person than Queen Elizabeth condemned the concentration of rural labourers in towns. In 1580 her words were:—“Great multitudes of poor people inhabiting small rooms, being therein heaped together and in a sort smothered in one house; if plague or sickness came amongst them, it would presently spread through the whole city and confines.” The hovels of our rural poor are still so awful that the full spread of the provisions of the Labourers Dwellings Acts, 1883-85, can alone make a traveller in many western regions realise that he is in a civilised country. On Hare Island, near Skibbereen, where typhus is now raging, there were found dwelling, in one room of a small cabin, twelve persons. In one room of another, three married couples and four children slept. Under these Acts, there have been built or authorised 14,300 cottages, to cost £1,330,949. The usual rent is 1s. weekly. Several of the preliminary inquiries have been abortive from want of medical evidence, which, however, the officers were willing to give, the question of fees being postponed. Their provisions will relieve the dangerous congestion of the smaller towns, and lessen pauperism; for the family of the labourer dwelling in them, could not live on the earnings of the bread-winner, which were low, owing to his fatigue in walking great distances to his work. The establishment of county boards to manage the numerous functions now thrown on Poor Law Guardians is often very forcibly advocated, so that the latter will have the care of the infirm and sick alone, but some central directing body will nevertheless be needed. The desirability of rating whole unions instead of electoral districts unequally is every day becoming more apparent. It was never more forcibly advocated than in the Address delivered at the Belfast meeting of the British Association in 1852, by the great Dr. Alison, of Edinburgh.

The office of coroner is held in many counties by medical men; but the expensive mode of election—namely, by the votes of the Parliamentary Constituency, makes it, in case of contest, often a doubtful prize.

Inquests in various towns, from 1871 to 1880, were held in strikingly different proportions of the deaths—namely, Belfast, 1-57th; Dublin, 1-46th; Galway, 1-32nd; Limerick, 1-28; Cork, 1-23rd; Derry and Waterford, 1-22nd; and Sligo, 1-13th. In some of our towns the coroners must be far more active than their brethren elsewhere, or suspicious deaths are sadly numerous. The proportions of such investigated deaths which are found to be violent, also vary remarkably; Dublin, 4-5ths; Belfast, 2-3rds; Limerick, Galway, and Sligo, 2-5ths; Cork and Waterford, 1-4th; and Derry, 1-5th. In all England the proportion is 2-3rds, and in London, 5-8ths. Violent deaths out of every 1,000,000 living are—in England, 745; New York, 730; Prussia, 486; and in the most sober nation, France, 268. In Dublin, in 1880, the ratio was 660. Under the Coroners' Act (1881) for Ireland, following the rule in English counties (1860), a salary based on the average number of inquests for the five previous years was allowed. Only medical practitioners, barristers, solicitors, or magistrates of five years' standing were made eligible.

It is surely time that in large cities there should be, in addition to the last attendant, experts whose evidence as to the cause of death might be received with implicit reliance, and that necropsies should be held in hospitals for the instruction of students. Such changes were urged by a Special Committee of the House of Commons in 1879. No general statute on this important subject has been passed for fifty years, yet it is one on which all parties might agree towards the codification of previous Acts, the adoption of the qualification in the Irish Act, and the placing of the elective power in some smaller body than the parliamentary voters.

To the public medical services I am induced to refer, as there has been too little kinship between them and civil practitioners, although it is most desirable, in the interest of the profession at large, that the former should be kept at a high state of efficiency, and because those who have the control of these services have always lent a willing ear to suggestions emanating from our body. Moreover, in them is now being tried the question, important for us all, "Can the medical profession be entrusted with the complete control of hospitals?" and it is our interest to see that the trial is a fair one. A few words will point out what are the advantages of the public services. All three Services—the Army, the Naval and the Indian—seem to offer careers to medical men in many respects highly attractive. To

spend twenty years seeing the world in pleasant company, fairly well paid, occupied, yet not fatigued with congenial pursuits, with, at the end of that time, the choice of continuing in the service or of drifting into civil life on a liberal pension, seems not a bad way of answering the great question of youth—What shall I make of my life? Yet these careers have some drawback, and some of the regulations call loudly for amendment.

It seems hard that the clauses of recent warrants affecting the pay and allowances of medical officers should have no force in India. Even if these warrants had not been issued, some increase of pay would be equitable for India, owing to the depreciation in value of the rupee. To withhold there pecuniary advantages that are given at home and in all our colonies, is anomalous and unjustifiable. In computing retiring allowances, periods of half-pay are considered in the case of combatant, not of medical, officers.

The social isolation, which must be endured on joining the service, owing to their not being attached to a regiment, is much complained of by the juniors. If the authorities could see their way to attaching junior surgeons to regiments for periods of five years, these officers would gain much in discipline and the amenities of life, and the regiments would be spared the constant changes of medical advisers, to which they now so much object. The period during which administrative medical officers hold their appointments—namely, until the incumbent reaches sixty years, is too prolonged; and it follows that, when young men are promoted for special service, they completely block the way of all older than themselves. If it were regulated that administrative appointments could be held only for a limited number of years, as is the case in the combatant, commissariat, and ordnance store departments, a constant and healthful flow of promotion would go on, and deserving junior men could be promoted without injustice to their seniors. It is becoming most evident that the creation in the medical services of some unit larger than the individual, who now, whether as officer or private, wanders from station to station, and arrives a stranger amongst strangers wherever he goes, is required. At present, when it is necessary to organise for active service a bearer-company or field-hospital, men, non-commissioned officers and officers, are got together from various stations, and their first acquaintance with one another is on board the transport that takes them abroad. What would be

the efficiency of a battery of artillery so got together? Yet the carrying, the feeding, the lodging, and healing of wounded men, is as complex a problem as the killing of sound ones. The views on such topics, and on practical education in hospital hygiene and dieting, which have been so forcibly put forward by Surgeon-Major Evatt, and some of his disciples in civil life, are most worthy of our consideration. In Ireland we are warmly interested in the medical staff, for nearly one-third of it are alumni of the College of Surgeons, and over a hundred others were qualified by other bodies in that country.

As from personal visits in 1865, I was made aware of the value of the work done at Netley Laboratory, it has often been to me a matter of surprise that, in a few principal stations, means for scientific investigation of hygienic and pathological questions have not been established.

In 1812 the Admiralty requested the Irish College of Surgeons to examine into the state of health and of wounds, if any, of officers retiring or going on half pay. The fee was proportional to rank—three guineas in the case of an admiral, one in that of a mate.

I shall not even touch upon the question of the fitness or unfitness of women for ordinary practice, as not one has settled in Ireland; the size of country districts, the number of male rivals in the towns, and the decreasing remuneration in both, have probably been deterrent.

There are two occupations, however, in which their services could with great advantages be accepted—namely, mechanical dentistry and dispensing. In the United States, dentists frequently employ female assistants whom they find expert manipulators and accurate book-keepers, and, moreover, content with lower remuneration than men. There cannot be a doubt that women would readily master the chemical knowledge required, and would make skilful and conscientious pharmacists. A rude shock was given to the confiding trust which practitioners had in the exactness of dispensing by the disclosures published in the *British Medical Journal* last February. A prescription was sent to fifty West-end establishments, in seventeen out of which it was very incorrectly dispensed, the extremes of error being that in one case the drug was 57 per cent. in excess; in another the deficiency was 85 per cent. The ordinary chemists were the most accurate. It would be very desirable that such an investigation should be conducted on an extensive scale.

The sale of patent medicines and other nostrums is very limited in Ireland, due probably to the poverty of the people and the adequate distribution of medical relief. It is therefore strange to find them largely advertised in country papers.

You will be surprised to hear that in Ireland—a country deeply interested in the production of horses and cattle, and where epizootics are rife—there are no means for the teaching of veterinary science or art. As nearly all the scientific chairs already exist in our medical schools, a hospital for diseased animals and a dissecting room are alone needed. If they be not shortly provided, the present practitioners will find it hard to defend themselves from accusations of want of public spirit or dread of competition. Our very old and most useful body, the Royal Dublin Society, has lately decided that it would not be justified in undertaking the risk; but there is no doubt that the project would soon become self-supporting, if a public grant was made for the building. It is right, however, to state that the number of diplomas granted by the London College, which alone examines in Great Britain, was, for the year ending last June, only fifty.

In 1882 the Academy of Medicine in Ireland was formed by the amalgamation of the Medical, Surgical, Pathological, and Obstetrical Societies of Dublin. Two ranks were created, those of Fellows and Members. Admission to the former was most liberal at first; but now some restriction, as to number or qualification, such as Fellowship of a College or the Doctorate of Medicine, for which an Arts degree is required, so as to make it something of a blue ribbon of science, is desirable. The Sections are—Medical, Surgical, Pathological, and Obstetrical; and there are Subsections of Public Health and Anatomy and Physiology. The meetings occur alternately in the Colleges of Physicians and Surgeons. There are now 211 Fellows, 35 Members, and 24 Student Associates, for the meetings are open to senior pupils; and the volumes issued show an amount of work far in excess of that accomplished by the four bodies when separate.

Its immediate predecessor, the American Academy, founded in 1876, numbers only 291 Fellows, in a country where about 97,000 practitioners reside; but this is not surprising, when we learn that graduation in Arts is a necessary qualification. By such a bar, Cheyne, Corrigan, Stokes, Crampton, Carmichael—to take a few examples from my country—would have been ineligible; but in Great Britain this absurd rule would tell even more injuriously.

Many circumstances forbid most promising students from a university course; and, when professional labour is undertaken, it is rarely possible that extraneous studies can be superadded.

Scientific medicine having been provided for by the Academy, the Dublin Branch of the Association has concerned itself only with such questions as medical legislation, the position of the public medical officers, the notification of infective diseases, and vaccination. It has 184 members; and the annual dinner, to which many leading personages are invited, is one of the social events of the city.

The new Medical Act has been so fully discussed, that it would be tedious to even allude to any but one topic—that is, the preponderating influence of the licensing bodies, and the absurd inequality of the constituencies which elect their representatives. Of the thirty members, twenty are to be sent from these bodies, elected in the most diverse modes. Taking Ireland only, in the University of Dublin the power is vested in the Provost and seven Senior Fellows, only one of whom is medical, and he takes the seat.

In the Royal University, the electors are thirty-six senators, of whom seven are medical, and one of them is their representative. When I recall to your memories the names of the gentlemen thus chosen—Drs. Haughton and Banks—you will be convinced that so conspicuous is their fitness, that the proper constituencies—namely, the medical graduates—could make no better choice.

In the Apothecaries' Hall, the Directors, that is, a few of the shareholders, choose one of themselves.

In the Royal College of Surgeons, the Council of twenty-one, annually elected by the 363 Fellows, nominate the representative; and, lastly, in the College of Physicians, all the Fellows (49) have a voice. In all the authorities, the voting power should be vested in those who hold the highest rank—that is, Doctors and Fellows.

The recognition of foreign and colonial qualifications is a great step towards international reciprocity. It is to be hoped that only those qualifying bodies where the standard is high will be recognised. The desideratum to be next sought for is the assimilation of weights and measures. At the meeting of our Association at Cork, Professor Charcot said that his acquaintance with British work was more obstructed by our ways in these particulars than by our language.

A few words touching our universities, which, like those of England and Scotland, have been the pets of the new Medical

Act. Dublin, unlike any city in the world, has two universities; while the opinion of all educated and disinterested men is that there should be a single *Alma Mater*.

There are so many prominent advocates for colleges in which the government and the education shall be denominational, and so many others who desire to see all religious tests abolished, that the question will never be set at rest until equitable endowments are provided for each class of institution. Let there be diversity in the colleges, but unity in the university.

The famous site of learning now approaching its tercentenary should alone survive, due representation being given to such colleges as may be added to Trinity College, with which now it has alone to do. It is to be hoped that its system of choosing its Fellows (from which the governing body is by seniority constituted) will never be wholly dispensed with. It is by competitive examination; and although, in this way, men fitted for original work may not always come to the front, it is a far surer way of getting competent teachers than other elective modes.

While the Bill to create the Royal University was being passed, no one conceived that it was intended unduly, if not exclusively, to benefit the three provincial medical schools, and one in Dublin. However, in 1882, medical Fellows were advertised for, but on the appointed day none were selected; yet for medical examiner-ships (offices not before notified), sixteen professors most unexpectedly came into permanent power. The proportions were—from the three provincial schools, six out of twenty professors; from one Dublin school, seven of the eight professors, (the eighth was a Senator); and from the other four schools two of the fifty professors. One selected examiner was not a teacher.

The number of anatomical students in the favoured school of Dublin, according to the returns of the previous session, was recorded as 100, against 736 attending the other four together. I forbear from comment upon our universities, as the reports of the Medical Council visitors, and the replies thereto, will suggest enough.

That proposals for the conjunction of medical licensing bodies are not very novel, would appear from "The Craft of Surgery;" for there is fully quoted such a scheme, framed in 1423, under the title of "The Ordenaunce and Articles of Phisicians withinne the cite of London, and Surgeons of the same cite."

During the present century, Richard Carmichael was the ablest advocate of the union of physic and surgery, and, by a great con-

gress of the profession in 1839, nearly carried his object. The College of Physicians, then a small body—30 Fellows and 52 Licentiates—meeting in Sir P. Dun's Hospital, refused very generous terms, owing to their pride in their landed estates. Just now this pride has had a fall, but they may rejoice that nearly three times as many licentiates pass yearly as there were then altogether on the roll; and they now have a noble hall. By his will, Carmichael left £3,000 to form a prize fund for essays, to further this union. Awards of £200 and £100 will be made next May.

Extraordinary variation is exhibited in the number of licenses, or lower qualifications, issued by the Irish bodies at various periods. In 1797, only one medical student matriculated in the University. For the ten years, 1826-35, the average numbers were—University of Dublin, 15; College of Physicians, 5; College of Surgeons, 32; and Apothecaries' Hall, 57. For the five years ending 1871 the numbers were:—University of Dublin, 34; Queen's University, 55; College of Physicians, 86; College of Surgeons, 108; and Apothecaries' Hall, 22. Last year, they were respectively 52, 76, 142, 85, and 25, and the figures touching earlier examinations show two notable facts—the number passed for first half in the College of Physicians was only 15, and the percentage of rejection in the College of Surgeons for the three first years' examinations together was 38·5 of 460 examined.

The Irish Colleges of Physicians and Surgeons, like the English and the Scotch, are now virtually united; only the higher titles are to be granted separately. Let us hope that the fusion will be completed by all being empowered to call their qualification M.D., as is universally the case in America. The full letters of their licences L.K. & Q.C.P.I., L.R.C.S.I., and L.M., are peculiarly unhandy. Although there are doctorates in four other faculties, us alone will the public call "doctors." Of other designations, "registered medical practitioner" is too long, and "medical man" does not include our professional sisters. As a single word, I see no objection to "medicist," which is quite analogous to "scientist," "statist," "jurist," &c. In the thirteenth century, the Welsh military corps had attached to it an officer styled "medicus." Shakespeare used the word "medicine" to signify a physician.

Conjunction between some of our five schools is much to be desired, especially as regards the preliminary scientific subjects. If thus remunerative chairs were arranged, the first year might be fairly devoted to physics, chemistry, and biology.

There are several peculiarities in the educational and examination curriculum of the Irish conjoined bodies just adopted. There are four examinations, one at the end of each year, and each must be passed before study (the order of which is rigidly enforced) can be continued. Chemistry, materia medica, and medicine, are examined in during two years, and surgery and anatomy during three. Anatomical lectures must be attended for the first two winters, and dissections performed for three.

The only branch of anatomy which was required for the first year was osteology; surely, a slight knowledge of the structure and relations of the viscera will be a more useful prelude to physiology and to hospital study. Elementary anatomy and physiology are in the first examinations in England and Scotland. Since 1698, when Clopton Havers was elected first Gale lecturer on osteology, undue value has been fixed on the subject. Specimens are easily prepared and kept, and, while they are being handled, teacher and learner are readily reminded of the facts to be acquired.

Anatomy is highly esteemed as a means of mental training, a purpose for which it would be fit for the earlier years; but, during the later ones, no memory could retain a thorough acquaintance with it together with the far more important knowledge to be then stored up. One would have thought that Mr. Syme's committee of the Medical Council (1868-69) would have set this question at rest. The 131 teachers whom they consulted were almost unanimous in restricting anatomical work to the first half of study. In the faulty system lately superseded in my College, there were but two examinations, and Anatomy counted nearly 50 per cent. of the first.

These top-heavy candidates were easily knocked over; fifteen out of nineteen failed a few weeks ago. Thirty-two years ago, when I passed, work with a grinder was indispensable for making knowledge producible; the entire professional examination was oral, only occupying an hour on each of two consecutive days. In some cases the hours were allowed to be consecutive. Under the new scheme, each student is examined during about fifteen hours within the four years, and in every item the methods are the most practical in the United Kingdom. The conjoined plan compels work in a school during the first year; that of the College of Surgeons did not, and the period went popularly by the name of "the Skibbereen year," as it might be spent in that remote place. Something similar is possible under the London scheme.

Grinding was thus encouraged to a pernicious degree; for the student, having to answer at the end of the year in many subjects, about which he had only read, depended on cramming alone—a fault likely to endure for his whole pupilage.

The conjoint curriculum has no place for the assistancy with a practitioner, which some value highly, but preferably it insists on *bonâ fide* work as dresser and clinical clerk, which has heretofore been a want in the Dublin Hospital system, and on attendance at ophthalmic and obstetric institutions, and the compounding department of a clinical hospital. In future the declaration of the President of the Medical Council will be applicable to my city likewise. “The instruction given in London hospitals for the average learners is ten times more detailed and more precise than in the student days of Hunter and of Brodie.” That all our young fellows do not become prodigies proves there are limits to receptivity.

In the final examination, in addition to medicine, surgery and midwifery, the candidate should be allowed to choose one of the three great special lines of practice towards which he may be called—namely, mental pathology, ophthalmology, or hygiene, and tested in it alone. The growing importance of the last named is shown by the fact that it forms a necessary part of examination in 91 of the 233 colleges which qualify in the United States and Canada. If the Apothecaries’ Hall of Dublin be raised to a full licensing body (the legality of so doing is at least questionable), the medical profession in Ireland will have lost far more than it will have gained by the Medical Act. As that company does not annually receive as much money for its licenses as is paid by a single candidate for any registrable qualification, to abolish its power would inflict pecuniary loss only infinitesimal compared with other sources of profit. As dispensers, the apothecaries have been largely supplanted by the licentiates of the Pharmaceutical Society of Ireland.

And now I end this imperfect, unadorned survey of medical affairs in Ireland, and express to you earnest thanks for having patiently listened to it.

ART. VIII.—*Medical Report of the Fever Hospital and House of Recovery, Cork-street, Dublin, for the year ending March 31, 1886.* By JOSEPH M. REDMOND, F.K.Q.C.P.; one of the Physicians to the Hospital; Physician to the Mater Misericordiæ Hospital; Lecturer on the Practice of Medicine and Pathology, Ledwich School of Medicine; Pathologist to the Coombe Lying-in Hospital; Examiner, King and Queen's College of Physicians.

THE record of a year's hospital work can never be absolutely free from pain; but a more than usually satisfactory office has fallen to me in the compilation of the past year's Medical Report of Cork-street Fever Hospital. The figures for the year show our city to have been comparatively free from epidemic disease, and the cases admitted show a marked diminution in numbers, as well as a decrease in all diseases of a more serious nature, as compared with those of previous years. The total number of admissions is 608, as will be seen by reference to Table I.

Satisfactory, however, as the Report is for the city, the year has not passed without loss to the hospital. On March 12th the institution sustained a severe blow by the death of Miss Maguire, the Lady-Superintendent, from petechial typhus. By her death the hospital has lost the services of a lady devoted to her work, and one who, through a period of over ten years, endeared herself to all with whom she came into contact, by her unselfish and untiring devotion in ministering to the needs of those who were entrusted to her care.

For the materials upon which this Report is based I am indebted to Mr. Sydenham D. Chandlee, the Resident Medical Officer, whose care has greatly lightened my task and added much to its accuracy. I have also to thank him for his kindness and attention to the patients.

The admissions to the hospital during the year were 608 in number, the corresponding numbers for the two preceding years having been:—1883-4, 888; 1884-5, 864. It will be seen that these figures show a decrease of more than 250 in the total number of admissions, as compared with the two preceding years. This decrease is mainly due to the diminished prevalence, during the year which has just passed, of typhus fever, scarlatina, measles, and pneumonia.

TABLE I.—*Yearly Statement of Patients.*

Admitted from May 1, 1804, to March 31, 1886,	-	208,723
Discharged cured, or relieved,	- 193,087	
Died,	- 15,591	
	<hr/>	208,678
Remaining in hospital, March 31, 1886,	- -	45
In hospital, March 31, 1885,	- - 116	
Admitted, 1885-86, ^a	- - 608	
	<hr/>	724
Discharged cured, or relieved,	- - 609	
Died,	- - 70	
	<hr/>	679
Remaining in hospital, March 31, 1886,	- -	45

The admissions for the past five years have been—

1881-82,	- 471	1884-85,	- 864
1882-83,	- 562	1885-86,	- 608
1883-84,	- 888		—

TABLE II.—*Monthly Statement of Patients from April 1, 1885, to March 31, 1886.*

Months				Admitted	Daily Average No. of Patients in Hospital
April,	1885	-	-	96	88·97
May,	„	-	-	102	70·10
June,	„	-	-	66	59·87
July,	„	-	-	52	51·87
August,	„	-	-	37	38·32
September,	„	-	-	43	35·55
October,	„	-	-	42	35·55
November,	„	-	-	30	32·33
December,	„	-	-	27	27·90
January,	1886	-	-	21	15·23
February,	„	-	-	39	25·43
March,	„	-	-	53	45·36
Total and Average,				608	43·87

^a Fever Hospital, 602 ; House of Recovery, 6 ; Total, 608.

During the months of April and May measles was prevalent in the city. This fact sufficiently accounts for the larger number of cases admitted during these months—viz., 96 in April, and 102 in May—nearly double the monthly average of admissions.

TABLE III.—*Showing the Number of Admissions of the Principal Diseases, and the Number of Deaths among the Cases treated to a Termination, for the year ending March 31, 1886.*

1885-86	Typhus Fever	Enteric Fever	Simple Fever	Smallpox	Scarlatina	Measles	Pneumonia	Erysipelas	Rheumatism	Meningitis	Rötheln	Tonsillitis	Pertussis	Diarrhoea
April -	1	3	—	—	2	62	9	—	1	2	—	—	—	—
May -	3	4	6	—	9	41	9	—	1	3	—	—	—	—
June -	5	4	4	1	11	18	1	1	—	6	—	—	—	—
July -	5	4	1	2	14	11	2	1	—	1	—	—	—	1
August -	5	8	3	—	8	1	3	—	1	—	—	—	—	1
September	10	12	2	—	5	—	5	—	1	—	—	2	—	3
October -	4	3	1	—	12	1	13	2	—	1	—	1	—	—
November	3	3	4	—	9	—	4	—	—	—	1	—	—	1
December	7	2	4	—	4	—	5	1	—	—	—	—	—	—
January -	2	7	—	—	5	—	3	—	1	—	—	1	—	—
February -	7	9	1	—	5	3	4	—	2	—	—	—	—	—
March -	14	2	2	—	4	9	5	2	1	1	—	1	1	1
Total, 1885-6	66	61	28	3	89	146	63	7	8	14	1	5	1	7
Total, 1884-5	149	45	54	—	164	171	101	25	9	4	1	3	2	3
Increase this year	—	16	—	3	—	—	—	—	—	10	—	2	—	4
Decrease this year	83	—	26	—	75	25	38	18	1	—	—	—	1	—
Died -	10	5	—	1	13	11	14	2	—	7	—	—	—	—

This table shows how great was the decrease in the number of admissions for typhus fever, scarlatina, measles, and pneumonia, as

compared with the previous year. Enteric fever, however, was somewhat more prevalent, the admissions being 61 against 45 in the preceding year. Of the 10 cases of meningitis, 9 were admitted during the months of May and June. Three cases of smallpox were admitted during the year. Of these, one was that of a nurse sent from a private nursing institution to attend a lady residing in the Pembroke Township, who had contracted the disease in London. The other two patients were girls employed in a public laundry, to which the infected clothing had been sent from the house of this same lady. Thus it will be seen that the only cases of smallpox admitted into hospital were all, practically speaking, imported from England, and owing to the prompt measures taken, and the perfect system of isolation adopted in the hospital, an epidemic, which at one time appeared imminent, was arrested in its origin, and the city preserved from the miseries of another of those visitations which we have so recently experienced.

The following is an extract from the Report of Sir Charles A. Cameron, M.D., on the state of the public health in June, 1885:—

“The average temperature of the month was 1·4 below the average temperature of May during the previous ten years, and the extremes of heat and cold were very great. The death-rate was high for a summer month; but it was 3·96 per 1,000 less than in May. The zymotic death-rate was moderate.

“Margaret Egan, aged 20, suffering from smallpox, was admitted into Cork-street Fever Hospital, from a house in the Pembroke Township, on the 14th June. It appears that a lady residing in that Township returned to Dublin from London, and shortly after became ill from smallpox, which she had evidently contracted in London. Two members of her family became, in due time, affected with the disease, as did also the nurse who attended upon the patients. The latter were three ladies, and one of them died. The nurse, a girl 20 years old, was sent out of the house in which she had contracted the disease, to Cork-street Fever Hospital. It would have been far less likely to endanger the public safety had she been treated in the house in which, whilst discharging her dangerous duties, she had been stricken with one of the most loathsome and fatal diseases. She died in the hospital on the 30th of June, 1885. The greatest precautions were taken to prevent the infection from the patient being spread. She and the nurses who attended upon her were isolated in a detached building, and their food, &c., supplied to them in such a way that no contact

between them and the officials of the hospital occurred. The moment Mr. Chandlee, the able and zealous Resident Medical Officer of the hospital, telephoned to me that the patient had been admitted, I telephoned to have her clothing at once consumed by fire. The eucalyptus spray was set going in the house in which the patient was nursed, and sulphur was burned in large quantities round the building, in order to destroy any germs of the disease which might issue from the infected house. Mr. Chandlee, who was unremitting in his attentions to the patient, enveloped himself in an 'over-all' whilst visiting her, and adopted every precaution to prevent himself from becoming the vehicle of contagion."

The daily average number of patients under treatment in the hospital was 43·87, as against 60·02 in the previous year. These facts speak for themselves, and it is unnecessary to comment further on them.

PERCENTAGE OF MORTALITY.

1877-78, - 10·52	1880-81, - 14·53	1883-84, - 12·85
1878-79, - 20·22	1881-82, - 9·82	1884-85, - 11·79
1879-80, - 17·25	1882-83, - 9·15	1885-86, - 10·31

Deduct admissions sent in hopeless—rate = 8·036 per cent.

TABLE IV.—*Analysis of Deaths of Cases sent in beyond Recovery, 1885-86.*

No.	Registry	Days ill before Admission	In Hospital	Disease	Remarks — Condition on Admission
1	174	2 days	1 day	Measles	Pulm. complication.
2	250	9 days	18 hours	Meningitis	Delirious.
3	292	28 days	7 days	Scarlatina	Ascites, & desquamating and renal complications.
4	328	4 days	2 days	Pleuritis & chronic alcoholism	Dying.
5	347	6 days	1 day	Pneumonia	Very ill.
6	387	4 days	3 days	Typhus	Very weak & delirious.
7	405	4 days	—	Facial erysipelas	Died on removal from cab.
8	435	7 days	2 days	Pneumonia	Very ill.
9	441	14 days	2 days	Enteric	Extremely weak & low.
10	451	10 days	2 days	Nephritis	Dying.
11	452	1 day	2 days	Scarlatina maligna	Dying.
12	480	4 days	8 hours	Scarlatina maligna	Serious throat complication.
13	486	8 days	8 days	Acute tuberculosis	Very weak & emaciated.
14	516	9 days	30 hours	Pneumonia	Very weak and low.
15	591	2 days	1 $\frac{3}{4}$ hours	Meningitis	Comatose.
16	594	3 days	3 days	Typhus	Pulm. complication.
17	598	5 days	2 days	Pneumonia	Very low.

The cases enumerated in the above table are also included in

the death-rate. This is scarcely fair to the hospital or our nurses ; since many of these were admitted when their cases were hopeless, and could not be expected to derive any benefit from treatment in hospital. These cases, if deducted, as they should be, for the purpose of fairly estimating the results of the year's working, would reduce the death-rate to 8·036 per cent.

TABLE V.—*Showing the Deaths and Causes of Death amongst the Patients admitted during each month of the year 1885–86.*

1885–86	Typhus Fever	Enteric Fever	Smallpox	Scarlatina	Pneumonia	Meningitis	Measles	Erisipelas	Bronchitis	Nephritis	Tonsillitis	Acute Tuberculosis	Croup	Purpura Hemorrhagica	Pleuritis	TOTAL
April -	—	—	—	—	4	—	5	—	1	—	—	—	—	—	—	10
May -	1	—	—	2	3	1	5	—	—	—	—	—	—	—	—	12
June -	1	2	1	3	—	3	—	—	—	—	—	—	—	—	—	10
July -	—	—	—	2	—	1	—	—	—	—	—	—	—	—	—	3
Aug. -	1	1	—	—	1	—	—	—	—	—	—	—	—	—	1	4
Sept. -	1	—	—	1	1	—	—	—	—	—	—	—	—	—	—	3
Oct. -	—	1	—	1	2	1	—	1	—	—	1	—	—	—	—	7
Nov. -	—	1	—	2	—	—	—	—	—	1	—	—	—	—	—	4
Dec. -	1	—	—	1	—	—	—	—	—	—	—	1	1	—	—	4
Jan. -	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	2
Feb. -	2	—	—	—	1	—	—	—	—	—	—	—	—	1	—	4
March -	3	—	—	—	1	1	—	—	—	—	—	—	—	—	—	5
Total -	10	5	1	13	14	7	10	1	1	1	1	1	1	1	1	68

Table V. presents an analysis of the deaths occurring from the principal diseases treated in the hospital during the year. Of these, typhus fever contributed 10, scarlet fever 13, pneumonia 14, measles 10, enteric fever 5, though there was a large increase in the number of admissions for this last disease as compared with the preceding five years. The largest number of deaths occurred during the months of April, May, and June, although the proportion of deaths was not increased, owing to the more numerous admissions in these months.

TABLE VI.—*Showing by Months, Quarters, and Years, the Admissions of Typhus, Enteric, and Simple Fever into Cork-street Fever Hospital, for five years ending March 31, 1886 ; also the Monthly Mean Temperature.*

Mean Temp. Fahr.	Month and Year	Typhus Fever		Enteric Fever		Simple Fever		Annual Totals	
		Monthly Total	Quarterly Total	Monthly Total	Quarterly Total	Monthly Total	Quarterly Total		
o									
44·7	April, 1881	26	76	2	2	5	13		
52·3	May, -	32		0		5			
55·3	June, -	18		0		3			
59·9	July, -	16		4		8			
56·0	August, -	22	0	5	20				
53·6	September, -	26	2	7					
47·2	October, -	22	64	1		3			
49·4	November, -	4		4		2			
39·8	December, -	4		1	4				
43·9	January, 1882	13		30	1	2	9		
45·4	February, -	4	2		4				
45·9	March, -	11	3		2				
			28			6		8	
	Total, -	—		198	—	20	—		50	268
46·0	April, 1882	13	25	1	9	9	20		
52·0	May, -	7		3		8			
54·7	June, -	5		5		3			
58·5	July, -	5		3		4			
58·2	August, -	12	25	6	17	0	4		
52·0	September, -	8		8		0			
49·3	October, -	5		3		0			
42·7	November, -	15		6		2			
37·4	December, -	43	63	5	14	5	7		
42·4	January, 1883	35		7		9			
42·8	February, -	70		3		8			
38·0	March, -	67		3		16			
			172		13		33		
	Total, -	—		285		—			53	—	64	402
45·5	April, 1883	53	135	3	10	5	18		
50·6	May, -	54		3		9			
55·3	June, -	28		4		4			
56·9	July, -	23		1		3			
58·3	August, -	28	70	2	7	12	21		
54·3	September, -	19		4		6			
49·0	October, -	13		2		9			
43·5	November, -	42		9		10			
41·8	December, -	22	77	5	16	9	28		
44·5	January, 1884	20		3		6			
43·4	February, -	27		3		6			
44·5	March, -	21		7		4			
			68		13		16		
	Total, -	—		350		—			46	—	83	479

TABLE VI.—continued.

Mean Temp. Fahr.	Month and Year	Typhus Fever		Enteric Fever		Simple Fever		Annual Totals
		Monthly Total	Quarterly Total	Monthly Total	Quarterly Total	Monthly Total	Quarterly Total	
o								
45.3	April, 1884	20	39	5	9	9	17	
51.3	May, -	8		3		3		
56.6	June, -	11		1		5		
59.7	July, -	18	35	1	4	6	14	
60.3	August, -	7		1		6		
56.9	September, -	10		2		2		
49.2	October, -	25	55	6	26	5	14	
43.0	November, -	12		13		3		
40.8	December, -	18		7		6		
40.8	January, 1885	11	20	3	6	3	9	
42.7	February, -	8		1		5		
40.7	March, -	1		2		1		
	Total, -	—	149	—	45	—	54	248
46.7	April, 1885	1	9	3	11	—	10	
48.7	May, -	3		4		6		
56.2	June, -	5		4		4		
60.8	July, -	5	20	4	24	1	6	
57.1	August, -	5		8		3		
54.4	September, -	10		12		2		
45.5	October, -	4	14	3	8	1	9	
45.9	November, -	3		3		4		
42.0	December, -	7		2		4		
37.9	January, 1886	2	23	7	18	—	3	
39.7	February, -	7		9		1		
41.4	March, -	14		2		2		
	Total, -	—	66	—	61	—	28	155

SUMMARY FOR TEN YEARS.

Mean Temp. Fahr.	Years	Typhus	Enteric	Simple	Totals
o					
49.4	1876-7	100	47	200	355
48.8	1877-8	134	55	220	405
47.5	1878-9	142	51	173	375
47.4	1879-80	94	60	104	235
47.8	1880-1	420	37	103	570
49.7	1881-2	198	47	50	268
47.9	1882-3	285	20	64	402
49.0	1883-4	350	53	83	479
48.9	1884-5	149	45	54	248
48.0	1885-6	66	61	28	155

TABLE VII.—*Showing the Number Admitted and Dead of Typhus Fever, of both Sexes, and at different Ages, for the year ending March 31, 1886.*

Males				Females			
Ages	No. Admitted	No. Died	Mortality per cent.	Ages	No. Admitted	No. Died	Mortality per cent.
Under 5 - -	—	—	—	Under 5 - -	—	—	—
5 and under 15	10	—	—	5 and under 15	12	1	8·3
15 „ 20	8	1	12·50	15 „ 20	4	—	—
20 „ 40	15	4	26·66	20 „ 40	14	3	21·43
40 „ 60	3	1	3·33	40 „ 60	—	—	—
60 „ 80	—	—	—	60 „ 80	—	—	—
Total, -	36	6	16·6	Total, -	30	4	13·33
Total No. Admitted, 66		Total No. Died, - 10		Percentage Mortality, 15·15			

As compared with the preceding year, the cases of typhus fever show a decrease of 83. Both the admissions and the death-rate were somewhat higher among males than females, while in the previous year more females were admitted than males, and the mortality among them was lower. The greater number of cases of this disease were admitted during the months of September and March.

The risk run by attendants on this fever was painfully illustrated during the year. Besides Miss Maguire, the Lady Superintendent, who, as I have stated, lost her life, one resident pupil and one nurse contracted the disease while in the execution of their duties, but happily neither of these cases terminated fatally.

The number of admissions for enteric or typhoid fever was 61, which is greatly in excess of those during any of the five preceding years. Strangely enough, however, the number closely corresponds with that of the year 1879-80, both as regards admissions and death-rate. The rate of mortality was slightly in excess amongst females attacked by this form of continued fever, as compared with males, in both these years, though in the year 1885-86 a larger number of males were admitted, the numbers being—males 35, and females 26; whereas in the year 1879-80, 32 females were admitted, as against only 28 males.

TABLE VIII.—*Showing the Number Admitted and Dead of Enteric Fever, of both Sexes, and at different Ages, for the year ending March 31, 1886.*

Males				Females			
Ages	No. Admitted	No. Died	Mortality per cent.	Ages	No. Admitted	No. Died	Mortality per cent.
Under 5 -	2	—	—	Under 5 -	1	—	—
5 and under 15	10	—	—	5 and under 15	3	1	3·30
15 „ 20	11	2	18·18	15 „ 20	10	1	10·00
20 „ 40	11	—	—	20 „ 40	11	1	9·09
40 „ 60	1	—	—	40 „ 60	1	—	—
60 „ 80	—	—	—	60 „ 80	—	—	—
Total, -	35	2	5·71	Total -	26	3	11·54
Total No. Admitted, 61		Total No. Died, - 5		Percentage Mortality, 8 2			

TABLE IX.—*Showing the Number Admitted and Dead of Scarlet Fever, of both Sexes, and at different Ages, for the year ending March 31, 1886.*

Males				Females			
Ages	No. Admitted	No. Died	Mortality per cent.	Ages	No. Admitted	No. Died	Mortality per cent.
Under 5 -	13	3	23·08	Under 5 -	14	3	21·43
5 and under 15	20	3	15·00	5 and under 15	18	2	11·10
15 „ 20	4	2	50·00	15 „ 20	11	—	—
20 „ 40	5	—	—	20 „ 40	4	—	—
40 „ 60	—	—	—	40 „ 60	—	—	—
60 „ 80	—	—	—	60 „ 80	—	—	—
Total, -	42	8	19·05	Total, -	47	5	10·06
Total No. Admitted, 89		Total No. Died, - 13		Percentage Mortality, 14·6			

The cases of scarlet fever admitted during the year number 89, showing a decrease of 75 as compared with the preceding year—a

most satisfactory improvement. Of these 89 cases, 13 terminated fatally. In two of these cases the patients survived only a few hours after admission in a dying condition. This disease was most prevalent during the months of July and November respectively.

TABLE X.—*Showing the Number Admitted and Dead of Measles, of both Sexes, and at different Ages, for the year ending March 31, 1886.*

Males				Females			
Ages	No. Admitted	No. Died	Mortality per cent.	Ages	No. Admitted	No. Died	Mortality per cent.
Under 5 -	73	5	6·85	Under 5 -	41	5	12·20
5 and under 10	6	—	—	5 and under 10	11	—	—
10 „ 15	2	—	—	10 „ 15	—	—	—
15 „ 20	4	—	—	15 „ 20	3	—	—
20 „ 40	—	—	—	20 „ 40	6	—	—
40 „ 80	—	—	—	40 „ 80	—	—	—
Total, -	85	5	5·88	Total, -	61	5	8·20
Total No. Admitted, 146		Total No. Died, - 10		Percentage Mortality, 6·85			

TABLE XI.—*Showing the Number Admitted and Dead of Pneumonia, of both Sexes, and at different Ages, for the year ending March 31, 1886.*

Males				Females			
Ages	No. Admitted	No. Died	Mortality per cent.	Ages	No. Admitted	No. Died	Mortality per cent.
Under 5 -	1	—	—	Under 5 -	1	—	—
5 and under 15	5	—	—	5 and under 15	6	1	16·0
15 „ 20	7	1	14·28	15 „ 20	2	1	50·0
20 „ 40	20	3	15·0	20 „ 40	3	1	33·3
40 „ 60	5	—	—	40 „ 60	8	3	37·5
60 „ 80	4	4	100·00	60 „ 80	1	—	—
Total, -	42	8	19·05	Total, -	21	6	28·57
Total No. Admitted, 63		Total No. Died, - 14		Percentage Mortality, 22·2			

In Table III. will be found tabulated the number of measles cases admitted each month. From this monthly statement, it appears that during the month of April 62 cases were admitted, in May 41, in June 18, and in July 11. The increased number of admissions during the earlier months of the year was due to an epidemic of this disease which broke out in the South Dublin Union about that time. The total number of cases admitted was 146, of which only ten terminated fatally. The rate of mortality is therefore only 6·85 per cent.

A SOLVENT FOR SORDES IN ATAXIC FEVERS.

DR. A. D. MACGREGOR, of Kirkcaldy, speaks highly of boric acid as a topical application in the unhealthy condition in which we frequently find the mouth, tongue, and teeth in severe cases of typhoid fever. He says:—"The mouth is hot; the lips dry, cracked, and glued to the sordes-covered teeth by inspissated mucus and saliva; the tongue dry, or even glazed and hard, brown or black, crusted with a foetid fur. Under these circumstances, a pigment containing boric acid (30 grains), chlorate of potassium (20 grains), lemon-juice (5 fluid drachms), and glycerine (3 fluid drachms), yields very comforting results. When the teeth are well rubbed with this, the sordes quickly and easily becomes detached; little harm will follow from the acid present. The boric acid attacks the masses of bacilli and bacteria, the chlorate of potassium cools and soothes the mucous membrane, the glycerine and lemon-juice moisten the parts and aid the salivary secretion."—*Brit. Med. Journal*, July 10, 1886.

PAPILLOMA OF THE TRACHEA REMOVED LARYNGOSCOPICALLY.

DR. C. LABUS records, in the *Monatsschrift für Ohren-Heilkunde*, u.s.w., No. 4, 1886, the case of a man, aged sixty-three, who had suffered for nearly two years from difficulty of respiration and other signs of obstruction in the air-passage. With the laryngoscope a tumour could be seen nearly filling the trachea and growing at the level of the fifth tracheal cartilage. By means of a peculiar forceps the tumour was torn away piecemeal. In seven sittings sixty pieces were removed, which together had a volume of four cubic centimetres. The patient experienced immediate relief, and four months after the operation, although he occasionally expectorated little pieces of the tumour, his respiration was easy, and he could run and ascend stairs without difficulty. On microscopical examination of the pieces removed, the tumour was found to be a papilloma racemosum.

J. M. P.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

On Disorders of Digestion : their Consequences and Treatment. By T. LAUDER BRUNTON, M.D., D.Sc., F.R.S.; Fellow of the Royal College of Physicians; Assistant Physician and Lecturer on Materia Medica at St. Bartholomew's Hospital. London: Macmillan & Co. 1886. 8vo. Pp. 389.

WE owe the publication of this book to the fortunate circumstance that Dr. Brunton delivered the Lettsomian Lectures before the Medical Society of London in January and February, 1885, and that the Society requested him to publish the lectures which he then delivered before it. As a matter of fact, the Lettsomian Lectures occupy only 79 pages, or one-fifth of the whole volume, for the author decided "even at the risk of being accused of 'bookmaking,'" to reprint a number of papers previously published by him—for the most part in the pages of *The Practitioner*—the subject matter of most of which had a more or less direct bearing upon that of the lectures—the "Disorders of Digestion."

Dr. Brunton's originality, facile and expressive style, and wide research, have long since won him a place amongst the foremost medical writers of the day, and we therefore hail with satisfaction the appearance of his book, in which the results of his many and varied investigations are, as it were, stereotyped for all time. In the preface the author apologises for thus reproducing the creations of his own pen, but few of his readers will admit that an *ἀπολογία* was required.

The work is divided into two parts—the Lettsomian Lectures, and a collection of Miscellaneous Essays, all of which latter, with one exception, had been already published prior to the delivery of the "Lectures," at the beginning of 1885. The exception is a notable one. It is an Essay on "Poisons formed from Food and their Relation to Biliousness and Diarrhœa," which appeared in *The Practitioner* for August, September, and October, 1885 (Vol. XXXV.), and which is eminently and characteristically suggestive:—

"We must look," says Dr. Brunton, "to further observations upon the nature of the alkaloids formed by putrefaction; upon the effect of typhoid and other bacilli on milk, eggs, beef-tea, and other foods used in typhoid fever, to a more exact investigation of the alkaloids formed in the intestine and found in the fæces and urine, and to experiment upon the action of aromatic substances formed in the intestine upon the liver, for further knowledge which may aid us in treating disease, but enough has been already done to show what important effects on the animal body are in all probability produced by the alkaloidal products of albuminous decomposition."—(Pages 296 and 297.)

To return to the Lettsomian Lectures—they are three in number. The first opens with an interesting description of the process of digestion. Alluding to the disagreeable bitter taste of the product of the artificial digestion known as peptonisation, Dr. Brunton suggests (page 13) that the bitterness developed during gastric digestion may be due to the formation of an alkaloid, analogous to the alkaloids which have been obtained from decomposing albumin, and to which the name of ptomaïns ($\pi\tau\hat{\omega}\mu\alpha$ = a dead body) has been given. When explaining the action of bile as an aid to digestion, Dr. Brunton tells the following amusing anecdote:—In an examination on physiology some years ago at South Kensington, the question was put, "Where is bile formed, and what are its uses?" One candidate's answer was, "Bile is formed in the stomach, and is used for cleaning carpets." Dr. Brunton observes that "the knowledge of physiology displayed by this student was somewhat inaccurate, to say the least of it; but his answer may serve to impress upon our memories the fact that bile has the power not only of removing stains of grease from the surface of vegetable fabrics like carpets, but of enabling oil to pass through animal tissues, such as mucous membranes."

On pages 14 and 15 there are two serious mistakes, which are, however, corrected in a short list of "Errata" at the end of the book. The first error is the substitution of "gastric juice" for "pancreatic juice," the second is the substitution of "pancreatic juice" for "intestinal juice." At the top of page 16, also, the car is put before the horse, for we read "as the food passes through the large and small intestine." We mention these slips because Dr. Brunton is generally so very accurate.

At page 18 we meet with a very amusing account of an artistic dinner given by a City Company, at which the author had the good fortune to be present. He says:—

“This dinner was a revelation to me; it not only showed me that cookery might rank as one of the fine arts, but taught me that it might be a powerful moral agent. I went to the dinner exhausted with over-work, irritable in temper, and believing that City Companies were wasteful bodies, who squandered money that might be employed for useful purposes, and that they should be abolished; I came away feeling strong and well, with an angelic temper, and firmly convinced that City Companies had been established for the express purpose of giving dinners, and ought on no account to be interfered with. Nor was the good thus effected of a transitory nature; the irritability of temper, which had disappeared in the course of dinner, did not return; and the morning afterwards, instead of awaking with headache and depression, I awoke strong, well, and ready for work, and remained so for a considerable length of time.”

The first lecture concludes with an excellent description of the *rationale* of the common order of courses in a plain dinner—soup, fish, joint, pudding, bread and cheese, and dessert.

Among the many curious and interesting points brought out in the second lecture are the occasional development of marsh-gas in the intestines, the phenomena of peptonuria, simple glycosuria, simple oxaluria, the poisonous action of peptones, and a striking illustration of the important function which the liver exercises in preventing the entrance of poisons—particularly alkaloidal poisons—into the general circulation. Marsh-gas can be formed only in the absence of air, and so it is not produced in the stomach. It is, however, sometimes passed in eructations, and in *Reichert und du Bois-Reymond's Archiv.*, 1874, Dr. C. Anton Ewald reports a case in which a patient of his was astounded to find—on trying to light a cigar—that inflammable gas was issuing from his mouth.

As to the function of a gate-porter discharged by the liver, Dr. Brunton remarks :—

“We would, therefore, expect that some of the vegetable alkaloids injected into the rectum would prove more fatal than when taken by the mouth, as they would be able to pass by the lower hæmorrhoidal veins into the general circulation without passing through the liver. This actually appears to be the case, for Mr. Savory has shown that strychnine is more poisonous when administered by the rectum than when given by the mouth.”—(Pages 34 and 35.)

Lecture III., on the Preventive and Curative Treatment of

Digestive Disorder, is probably the most entertaining and practical of the series. Here is comfort for the toothless!—

“One of the puzzles of my childhood was, how my grandfather, an absolutely toothless old man, was able to eat and enjoy hard toast. But every tooth in his head was gone, and his gums were like the mandibles of a turtle. It is not the complete, but the imperfect, removal of the teeth which is the source of mischief.”—(Page 51.)

Talking about the practice of keeping meat until it is tender, Dr. Brunton observes that meat is now not infrequently kept until it is actually commencing to decompose. He says:—

“The effect of keeping may, to a certain extent, be imitated by the application of a vegetable digestive ferment. In the West Indies, a tough beefsteak is rendered tender by rubbing it with the juice of a fresh papaw fruit, which contains a ferment, papain, having an action very much like the trypsin of the pancreas.”—(Page 54.)

The practical importance of the following passage cannot be gainsaid:—

“The palate, like the appetite, sometimes makes demands which are apt to be misconstrued. As the late Professor Laycock observed, patients recovering from a severe illness not unfrequently have a strong desire for salt herrings, pork, or ham, things which would be almost certain to disagree with them if their appetite were indulged. But the fact is that the patients do not want the pork or herring; what they really desire is salt, and they crave for these articles because they contain salt. If salt be given to them in the form of a mixture, their appetite is appeased, and the harm is avoided which the herring or ham might have caused.”—(Page 62.)

In discussing the treatment of indigestion, Dr. Brunton alludes to the several classes of drugs employed—first, “gastric tonics,” as they are called, which consist chiefly of vegetable bitters, and among which he rightly includes *nux vomica* as “the most useful of all;” next, carminatives, or drugs which tend to disperse flatulence; thirdly, stimulants; fourthly, purgatives; fifthly, cholagogues and hepatic stimulants, with which another important class of drugs is closely connected—namely, “alteratives;” and lastly, diuretics. Referring to the undoubted efficacy of charcoal in some cases of flatulence, the author disputes the accuracy of the explanation that it acts by absorbing gases in the stomach on the ground that the power of charcoal to absorb gas is very slight when it is wet, as of course it must be in the stomach. He sug-

gests that it acts merely as a mechanical stimulant and that its use in the stomach is similar to its use as a dentifrice. He says:—

“In the healthy stomach, the layer of mucus which covers the lining membrane is very thin; but, in abnormal conditions, the mucous membrane may be covered with a thick coating of slimy mucus, which will tend to prevent absorption. The mechanical action of the charcoal will tend to remove this coating, and at the same time the friction which it exerts on the mucous membrane will tend to increase the flow of blood through the vessels; charcoal will thus aid absorption in a double way, by removing the mucus, and by increasing the circulation.”

He adds:—“If this idea regarding the action of charcoal be correct, we should expect that other inert powders would have a similar action, and this, I think, is the case. Subnitrate of bismuth, for example, is so insoluble, that it probably acts to a great extent mechanically; binoxide of manganese has a similar action; and cases of dyspepsia are reported which have been successfully treated by the administration of fine sand.”—(Pages 68 and 69.)

Dr. Brunton tells us how he gave up asking the question, “Are your bowels regular?” when he was Casualty Physician to St. Bartholomew’s Hospital, because he found it was ambiguous. One young woman replied to this question in the affirmative, but in answer to the further query, “How often are they open?” she said, “Once in three weeks, sir.” In another case, a motion occurred with great regularity, but only once every three months, and the patient objected to take any laxative medicine whatever, as this was her normal condition.

The fashionable purgatives at the present day are the saline natural waters, or the salts obtained from them.

“These are best given the first thing in the morning, and should be either warmed or given along with warm water. When crystallised salts are used, such as Carlsbad Salts, the quantity of water taken with them is of considerable importance. One-third to a half a teaspoonful of the salts, in a large tumbler of hot water, is usually sufficient to produce one loose motion immediately after breakfast; but a larger quantity of salts with a smaller quantity of water often causes abdominal disturbance, discomfort, or even pain, with several small motions at intervals throughout the day. Where evacuation of the bowels only is desired, the saline solution may be taken at a single draught; but when we wish it to act upon the liver, it should be taken in sips during dressing. . . . It has been shown that water, slowly sipped, not only increases the amount of bile secreted, but causes it to be secreted under higher pressure, so that, if any slight obstruction should be present in the bile-ducts, it will

be overcome, and the bile will flow freely into the bowel.”—(Pages 72 and 73.)

Dr. Brunton points out that certain bodies belonging to the aromatic series of compounds have a marked action upon the secretion of bile. Salicylate of sodium is “a powerful hepatic stimulant, not only greatly increasing the quantity of bile, but rendering it much more watery than before.” “By thus liquefying the bile,” Dr. Brunton observes, “it may be useful in biliousness with increased viscosity of the bile, and also in cases where there is a tendency to the formation of gall-stones.” We have ourselves made trial of this remedy in cases of sluggish liver and biliary colic—arising not only from gall-stones, but from inspissated bile, and our experience is altogether in accord with that of the author.

As an “alterative,” Dr. Brunton speaks highly of nitro-hydrochloric acid. He suggests that its use in biliousness depends on its union with ammonia to appear in the urine as an ammoniacal salt—the ammonia representing “so much nitrogenous waste, which instead of being converted into urea in the liver, has combined with the acid, and been excreted as ammonia.”

This third, and most instructive, lecture concludes with a very striking instance of the efficacy of *massage* and *forced feeding* in some forms of disordered digestion. This method of treatment was first introduced to the profession in America and England by Dr. Weir Mitchell in his book on “Fat and Blood, and How to Make Them,” but in the United Kingdom it obtained little notice, until it was taken up by Dr. William Playfair. It consists essentially in passive exercises and abundant feeding. Dr. Brunton’s patient, whom he saw in consultation with Dr. Image, of Bury St. Edmunds, was a very tall, powerfully built man, the subject of neurotic dyspepsia, in whose case all medical treatment had proved useless. For two years he continued to waste, until at length he was reduced to the appearance of a living skeleton. Dr. Playfair practised massage, and in the course of eight weeks the patient had made a wonderful recovery. The case is illustrated by two figures from photographs, showing the patient’s condition before and after massage.

As we have said, the remainder of the book is a *rechauffé* of papers already published, and therefore does not call for special remark. Suffice it to say, that the same freshness of style and originality characterise the entire volume, and the physician will

be at once charmed and rewarded who conscientiously reads it through from cover to cover.

Ringworm: its Diagnosis and Treatment. By ALDER SMITH, M.B., Lond. Third Edition. London: H. K. Lewis. 1885.

THE two preceding editions of this excellent monograph were favourably noticed in this Journal (September, 1881, and August, 1882); and the new edition, revised and in great part re-written, is sure to meet a ready acceptance with the profession as a concise and practical guide to the diagnosis and treatment of a most troublesome and vexatious affection. Dr. Alder Smith has had a wide experience of ringworm through his connection with a large institution, and he has made good use of his opportunities.

An Introduction to General Pathology, founded on Three Lectures delivered at the Royal College of Surgeons, London, 1886. By JOHN BLAND SUTTON, F.R.C.S. London: Churchill. 1886. Pp. 390.

THE laws of evolution, as enunciated by Huxley, are—

1. There has been an excess of development of some parts in relation to others.

2. Certain parts have undergone complete or partial suppression.

3. Certain parts which were originally distinct have coalesced.

The object of the present work, as stated by its author, is “to endeavour to show that the structural aberrations to which animal organisations are liable, and of which pathological anatomy takes cognisance, follow the same laws, which, when expressed in the terminology peculiar to that science, may be reduced to two—

“1. Correlation, $\begin{cases} (a) \text{ Hypertrophy.} \\ (b) \text{ Atrophy.} \end{cases}$

“2. Coalescence.

“Correlation leads to abrogation of function, and gives rise to rudiments; these rudimentary structures or remnants may serve as the germs of origin of many forms of cysts and neoplasms.”

That the generalisations arrived at are not the outcome of mere reasoning, but are founded on an immense experience, will be seen when it is stated that since 1878 Mr. Sutton has systematically examined the bodies of 12,000 animals, from fish up to man; that he has dissected, with a special view to pathology, 800 still-born

and immature fœtuses; and that he has had constant access to the *post-mortem* room and museum of the Middlesex Hospital.

The results of this large experience are to be seen in every page of the work, which abounds in careful observation, acute reasoning, and ingenious speculation. The book is divided into five sections and twenty-two chapters.

The first section deals with aberrations of nutrition—its excess, leading to hypertrophy; its impairment, causing atrophy; its arrest, producing necrosis. Of this section the most interesting chapter is that on the correlation of organs, in which examples are adduced of hypertrophy of one class of organs leading to atrophy of another, and *vice versâ*. We would particularly direct attention to the facts showing that although every animal is at first hermaphrodite, yet it is impossible for both male and female organs to arrive at functional perfection, and that an attempt at such development leads to failure, as in the case of the so-called Free-martins; that hypertrophy of one set must take place with correlated atrophy of the other; and that this hypertrophy is one of the causes of the division of sexes. The view that the disappearance of gills is due to the functional hypertrophy of the allantois is also ingenious and interesting.

The second section is on inflammation, which is defined as being “the method by which an organism attempts to render inert noxious elements introduced from without or arising within it.” This method assists largely in the absorption of the noxious matters by cells in the interior of which a process of intracellular digestion is carried on and the hurtful substances thus destroyed. The following picturesque summary of the process is given:—

“If we summarise the story of inflammation as we read it zoologically, it should be likened to a battle. The leucocytes are the defending army, their roads and lines of communication the blood-vessels. Every composite organism maintains a certain proportion of leucocytes as representing its standing army. When the body is invaded by bacilli, bacteria, micrococci, chemical or other irritants, information of the aggression is telegraphed by means of the vasomotor nerves, and leucocytes rush to the attack; reinforcements and recruits are quickly formed to increase the standing army, sometimes twenty, thirty, or forty times the normal standard. In the conflict, cells die, and often are eaten by their companions; frequently the slaughter is so great that the tissues become burdened by the dead bodies of the soldiers in the form of pus, the activity of the cell being testified by the fact that its protoplasm

often contains bacilli, &c., in various stages of destruction. These dead cells, like the corpses of soldiers who fall in battle, later become hurtful to the organisms they in their life-time were anxious to protect from harm, for they are fertile sources of septicæmia and pyæmia—the pestilence and scourge so much dreaded by operative surgeons. The analogy may seem to many a little romantic, but it appears to me to be warranted by the facts which have been placed before the reader.”

The third section is on cystomata. “A true cyst is the result of an abnormal dilatation of a pre-existing tubule or cavity,” and arises in one of the following ways:—

“1. The dilatation may result from the retention of the normal secretion of the part, owing to the closure of the excretory duct or ducts—retention cysts.

“2. By increased exudation into a cavity which is unprovided with an excretory duct—exudation cysts.

“3. The dilatation may affect functionless ducts and tubules (examples of which are always present in the body), or tubules rendered functionless by disease—tubulo-cysts.”

In connection with the subject of sebaceous cysts, notice is directed to the similarity of the castors in the forelegs of the horse and the horn of the rhinoceros to the cutaneous horns which sometimes grow in men, and it is suggested that all these are in their origin pathological; but in the cases of the horse and rhinoceros have been retained and transmitted—are, in fact, inherited pathological productions.

The superficial dermoid cysts, found so commonly about the orbit and other parts, are separated from the deeper dermoid or teratoid tumours, and are looked on merely as a highly-organised variety of sebaceous cysts. Their occasional presence inside the skull is explained naturally by the fact that originally the skin and dura mater were in contact, and that everything outside the latter membrane is really extracranial. The following very remarkable case of biliary retention is worth quoting:—

“In some rare instances the common bile-duct fails to communicate with the gut, and ends in a *cul-de-sac*. In one example dissected by me, which occurred in a young antelope, the common duct had failed to enter the duodenum. The ducts which ramified through the hepatic tissue were enormously dilated, so that the organ resembled a sponge honey-combed by biliary passages; in many parts of their course they were sufficiently dilated to admit the finger easily. The animal was five months old, and it is curious that no signs of jaundice had been observed,

nor were even observable in the carcase at death, although there was every reason to suppose that the defect was congenital in origin."

The congenital cystic kidneys which are met with not only in men but in cows, sheep, and pigs, have been generally looked on as due to the distension of the urinary tubules, owing to the absence of the renal pelvis. But it would appear that they consist really of a more or less persistent mesonephros or Wolffian body associated with normal renal tissue.

Several cases of allantoic cysts, developed in the urachus, are recorded.

An extremely lucid account is given of the cysts which are developed in connection with the brain and spinal cord and their membranes. A special chapter is devoted to cysts in connection with the female reproductive organs. The following classification is adopted:—

1. Ovarian cysts, (*a*) originating in the oophoron or ovary proper; (*b*) in the paroophoron or remains of the Wolffian body.
2. Parovarian cysts, arising in the Wolffian tubules or parovarium.
3. Simple cysts of the broad ligament—probably of lymphatic origin.
4. Cysts of the duct of the mesonephros (Gartner's duct).
5. Cysts in Müller's duct—(*a*) hydrosalpinx, &c.; (*b*) pyometra; (*c*) oviducal cysts.

As regards ovarian cysts, the great frequency of their origin in corpora lutea is demonstrated by examples from the human female and from animals; and it is shown that follicles ripen, atrophy, and form corpora lutea in the child, and in this way cysts are formed sometimes even before birth.

The cysts connected with the male generative organs are classified into—

1. Hydrocele (*a*) of tunica vaginalis; (*b*) funicular hydrocele—hæmatocele.
2. Cysts of the paradidymis (encysted hydrocele).
3. Dilatation of the utriculus masculinus.

A most interesting chapter on congenital cervical cysts, or hydrocele of the neck, concludes this section. These cysts are looked on as being of the nature of laryngeal saccules, such as occur in howling monkeys and other animals. For the evidence in favour of this view we must refer to the work itself.

The fourth section is on neoplasms. "A neoplasm is a new

growth, characterised by histological diversity from the matrix in which it grows. It is distinguished from inflammatory new formations by the variety of its forms, mode of origin, and the frequent inherent tendency it has to increase." The neoplasms are divided into (1) the mesoblastic group (or connective tissue neoplasms); (2) epiblastic and hypoblastic group (or epithelial neoplasms); (3) epiblastic, hypoblastic, and mesoblastic group (or teratomata).

In speaking of alveolar sarcomata, we are glad to find Mr. Sutton admit that these tumours are not to be distinguished from carcinomata by their histological structure, but only by a determination of whether they grow from connective tissue or from epithelium.

As to the ætiology of mesoblastic neoplasms, Cohnheim's theory of persistent germinal rudiments is accepted unreservedly; and it is argued that, as true cysts unquestionably originate in functionless ducts and tubules, so we have no reason to doubt the origin of solid tumours from untransformed tracts of tissue—more particularly as such rudiments can be abundantly demonstrated.

Some most interesting views bearing on the development of teratomata are to be found in this section. It is shown that "the conditions concerned in producing these curious tumours are—

"1. An obsolete canal or canals, once of functional importance in lower animal forms.

"2. The malformation of parts due to the locking-in or adventitious mixture of elements derived from the epiblast, hypoblast, and mesoblast.

"3. These adventitious elements and dilated canals play the part of tumour germs."

The sacral tumours are derived from the neurenteric passage and post-anal gut; those of the pharynx from the canal connecting the pituitary body with this part—a canal which possibly established a connection between the neural and alimentary tubes at the anterior end of the body; those of the tongue from the lingual canal, recently described by His as extending from the foramen cæcum downwards and backwards between the genio-hyo-glossi muscles, and ending blindly in the hollow of the hyoid bone; and those of the genital organs from some of the numerous tubes developed in the course of the formation of the ovary or testicle, and which subsequently become functionless.

The fifth section consists of only one chapter, and is on "Pathology

and the part it has played in Evolution." Numerous examples are given of the hereditary transmission of pathological conditions. Among these we can notice only the ingenious view that the descent of the testicles is to be looked on as a perpetuated hernia.

In concluding our notice of this charming book, we cannot too strongly recommend it to our readers. It is, in our opinion, the most suggestive work on general pathology which has appeared since the publication of Cohnheim's famous lectures. The text is profusely illustrated with admirable engravings, there are good indices, and the bringing out of the work leaves nothing to desire.

On some Forms of Paralysis from Peripheral Neuritis, of Gouty, Alcoholic, Diphtheritic, and other Origin. The Harveian Lectures for 1885. By THOMAS BUZZARD, M.D. London: Churchill. 1886. Pp. 147.

THE aim of these lectures is "to show that many forms of paralysis, which would, at first sight, point to organic disease of the central nervous system, are in all probability dependent essentially upon changes in the periphery of the cerebro-spinal nerves."

A typical case of localised peripheral neuritis is first described, and then other cases are considered in which the symptoms are more complicated, and the diagnosis, consequently, is more difficult. After the local forms have been dealt with, the cases of multiple neuritis are brought under consideration. In these the paralysis has a tendency to extend rapidly and to become general, and here the danger of supposing that the symptoms are due to central disease is greatest. In many of these cases the disease appears to be due to some toxic agency, such as alcohol, lead, diphtheria, syphilis, or the poison of Beriberi or Kakké.

As regards the cause of localised neuritis, there is good evidence that many such cases are due to the gouty poison, and several instances are recorded in which such a causation was extremely probable.

In cases of neuritis, whether localised or general, one of the most remarkable circumstances is the great diversity of the symptoms. "Pain is sometimes present and sometimes absent, numbness may be slightly or strongly pronounced, muscular atrophy, which is sometimes conspicuous, may be entirely wanting, whilst the results of electrical examination may vary to a remarkable extent."

Progressive multiple neuritis, although only recently referred to

its true pathological source, is not a new disease. Graves, in his "Lectures on Clinical Medicine," describes it as it occurred in Paris in 1828, partly from his own observation, partly from the account of the epidemic published by Chomel. Dr. Buzzard quotes Dr. Graves' description, and does full justice to his right of priority.

The symptoms usually begin by a feeling of pins and needles, or numbness in the feet and fingers. This spreads up the limbs, which become heavy and powerless, so that in a short time the patient is unable to stand, walk, or help himself. Fever is sometimes present, but is usually not a marked symptom. In some cases the paralysis may extend to the muscles of the trunk and face and eye-ball, swallowing and respiration may become affected, and death take place with symptoms of involvement of the pneumogastric nerve. More frequently, however, when the disease has reached a certain point, improvement begins to take place, and either rapidly or slowly the symptoms subside, and partial or complete recovery results. The duration of the illness may vary from a few weeks to some years. There is throughout a tendency to flaccidity of the muscles, and in some cases atrophy is distinct. The feet and hands are from an early period "dropped"—that is, the power of dorsal flexion is lost. When this symptom is observed in the lower limbs, it should always suggest a careful inquiry into the habits of the patient with regard to the use of alcohol, as it is a very constant symptom in alcoholic neuritis. In slight cases of neuritis the electrical excitability of the muscles may remain unchanged. In more severe cases great variety in the electrical reaction is noticed. The Faradic excitability may be more or less diminished, while the galvanic current may cause more or less than the normal effect. In other cases the reaction of degeneration may be well marked. The tendon reflexes are almost always lost, and the cutaneous reflexes diminished. In some instances the functions of the bladder and rectum may be impaired, and bed-sores, œdema and trophic changes in the skin, may occur. There is often pain of a darting, gnawing, or burning character, more pronounced in the lower than in the upper extremities. There is tenderness of the muscles and (later on) anæsthesia of hands and feet. Sensation to touch and pain may be lost, while heat and cold are well felt, or there may be hyperæsthesia of various degrees. Recovery may be complete or partial; in the latter case the function of the limbs being more or less impaired by atrophy of some muscles and contraction of others.

The numerous cases which are given by Dr. Buzzard of multiple neuritis, due to various causes, are in the highest degree interesting and instructive, and they show that this disease is by no means a rare one, although it is often far from easy to recognise. He calls attention, as he has done in previous writings, to the danger of diphtheritic paralysis being mistaken for tabes dorsalis. In making the diagnosis he looks to the condition of the pupils for help. The Argyll Robertson phenomenon, so constant in tabes, is absent in diphtheritic paralysis.

The prognosis is in many cases doubtful, but in general better than in disease of the central nervous system. Treatment must vary with the case and the probable cause of the disease. Iodide of potassium or sodium, rest, morphine, cannabis indica and belladonna for the pain, with the local application of anæsthesics; the application of the continuous current to the paralysed muscles, so as to maintain their contractility; massage, and attention to the general health and nutrition of the body—these are the chief things recommended. In conclusion, we most cordially recommend this little book—whose merit is by no means in proportion to its size—to all our readers. It is, in our opinion, a valuable contribution to pathological neurology, and cannot fail to add much to the general knowledge of a disease which has hitherto received too little notice from English writers, and whose true nature is too frequently overlooked.

Inflammations of the Liver, and their Sequelæ : Atrophy, Cirrhosis, Ascites, Hæmorrhages, Apoplexy, and Hepatic Abscesses. By DR. GEORGE HARLEY, F.R.S. London: Churchill. 1886. Pp. 142.

A FEW years ago we had occasion to notice Dr. Harley's large work on "Diseases of the Liver," and we pointed out in some detail what we considered to be the defects of this work. In the volume before us we find reproduced many of these defects. The same exuberance of style, the same endless digressions, the same ignorance of the most rudimentary facts of pathology, the same slipshod diagnoses, and the same almost grotesque egotism. It would serve no good purpose to give any analysis of this book, and we shall notice only two new methods of treatment, on both of which Dr. Harley greatly prides himself. The first of these is the treatment of what the author calls hepatitis, by puncture of the

capsule of Glisson. We shall, as far as our space permits, quote Dr. Harley's words:—

“When hepatitis, no matter what its variety may be, has once reached the congested indurated stage of so-called hypertrophic cirrhosis, I have found much benefit to accrue from puncturing the capsule of Glisson. . . . I was led to adopt this plan of treatment from my personal experience of the benefits derived from puncturing the distended sheath of the sciatic nerve in cases of acute neuritis, which is done on precisely the same principles as the surgeon punctures the tense, unyielding tunica albuginea, to relieve pressure on the inflamed secreting structures of the testicle in cases of orchitis. The operation of puncturing the capsule of Glisson is done with a trocar of the diameter of a No. 2 or 6 catheter, according to the gravity of the case.”

A case is then recorded, and only one, in which this treatment was adopted. It is admitted that this is an unusually favourable example, and it is to be regretted that some of the more ordinary cases are not given. The following account will, however, serve to show what an easily-cured affection hypertrophic cirrhosis is in the hands of Dr. Harley. The patient, aged fifty-two, lived freely in a hot climate, and in July came to Dr. Harley with the history of an attack of jaundice two years previously, and with an enlarged liver. He improved on mercurial and alkaline treatment. He subsequently went to Carlsbad, and further improved. The liver still remained enlarged and hard, and in the middle of October he again consulted Dr. Harley, who “punctured the left lobe with a No. 2 trocar in two places, and the right lobe with a No. 5 in one place, keeping the instrument in the wounds for several minutes.” No ill effects followed, and three days later the liver was greatly diminished in size, all tenderness was gone, the patient felt quite well, and in three weeks he sailed for South America a cured man. It is sad to think how many people have suffered and died from chronic hepatitis who might have been cured in twenty-four hours by such a simple method as this.

The second method of treatment is “still more interesting.” This is the treatment of acute hepatitis by direct hepatic phlebotomy. The author was led to adopt it by pondering on the difficulty of explaining the effect of leeching over the liver, and by his experience that the livers of dogs may be punctured with impunity. One case in which this treatment was adopted, and only one—and this certainly not what would be ordinarily called acute hepatitis—is given. The patient, a married lady, aged thirty-eight,

of intemperate habits, was attacked with hepatitis. The symptoms were—enlargement and induration of the liver, œdema of the legs, and ascites. The abdomen was tapped, and purgatives given for a fortnight without advantage. Dr. Harley was then consulted, who “pierced the liver from right to left with an eight-inch long trocar, of the diameter of a No. 3 catheter.” “Looking forward, then, with confidence to the result, no sooner had I pushed the instrument home to its hilt than I began slowly and deliberately, with a rotatory movement, to withdraw it, in the hope that sufficient blood would ooze from the wounded vessels into the channel left by the receding trocar to reward my efforts. Nor was I doomed in this hope to be disappointed, for scarcely had an inch of the trocar been withdrawn when blood flowed from its orifice abundantly, so that all that had now to be done was to let it flow—and let it flow I did until twenty ounces had come away. What was the result? Did the patient suffer much from the operation, or did she die? Neither. From that day the liver became gradually reduced in size. With the aid of tapping and the administration of the resin of copaiba, the ascites and the general anasarca disappeared, and in two months the patient could walk out.” In a little more than two months more she walked three miles to Dr. Harley’s house, and said she felt perfectly well, only a little weak and stiff from the walk.

Dr. Harley offers no comment on this case, but “confidently leaves it as it stands to the consideration of the advanced school of thinkers among his medical brethren.” In this course we follow Dr. Harley, calling attention only to the brilliant future there is in store for us in this country when we shall have got Home Rule and cheap whisky. We may all indulge freely in our national beverage without worse consequences than the necessity of having our liver punctured now and then with an eight-inch trocar.

We think these two methods of treatment are worthy of a place with the author’s “safe and easy method of sounding for impacted gall-stones,” which, when it was propounded at the Medico-Chirurgical Society, did not meet with much approval from the Fellows. Sir William MacCormac pertinently remarked that he failed to understand how, after an example ending in peritonitis and death, Dr. Harley could call his method “safe;” and how, after the first sounding had been completely unsuccessful, he could call it “easy.”

The fact that, after this fatal result of an operation which was

to revolutionise hepatic surgery, Dr. Harley did not take the trouble to make a *post-mortem* examination, and ascertain how much mischief he had done, shows sufficiently how little he desires accuracy or clearness of diagnosis, and how little confidence is to be placed in the doctrines which he puts forward.

On Cancerous Affections of the Skin. A Treatise on Epithelioma and Rodent Ulcer. By GEORGE THIN, M.D. London: Churchill. 1886. Pp. 87.

THE first part of this essay deals with ordinary epithelial cancer of the skin. A good description of the clinical appearances and pathology of the affection is given, and the diagnosis and treatment are treated of with sufficient fulness. While admitting that small epitheliomata are well treated by scraping or caustics, for larger growths Dr. Thin prefers removal by the knife. He, however, gives a long quotation from Kaposi, who, as is known, employs caustics more extensively than is the custom in this country.

In speaking of the multiplication of epidermic cells, notice is taken of the inconclusive evidence on which rests the view that this is due to division of the cells of the rete Malpighii, and the transformation of wandering cells into those of epidermis is put forward by the author as an alternative theory. The process in the development of epithelioma is thus summarised:—

“The chief elements in the morbid process consist in an abnormal condition of the epithelium of the skin. This abnormal condition is characterised, in the first place, by a diseased activity of growth; in the second place, by a diseased state of the epithelium itself; and thirdly, by effects on the subjacent tissue which lead to disruption and disintegration. This diseased epithelium possesses the faculty of destroying connective tissue, and of finding its way into lymphatic vessels, and by lymphatic vessels into lymphatic glands, and occasionally through the lymphatic system into the viscera, and there exercising the fatal power of multiplying at the expense of the normal elements amongst which it has passed.”

The second part—on Rodent Ulcer—commences with a long and interesting historical account of the different views which have been held on this affection by surgeons and pathologists since it was first described in the *Dublin Hospital Reports* in 1827 by Dr. Jacob (persistently called Jacob's by Dr. Thin). At first looked on as altogether distinct from epithelioma or cancer, it is now by many pathologists considered to be identical with this.

This opinion is not shared by Dr. Thin. He admits that it is a form of epithelioma, but the cells are smaller and much more delicate than in ordinary skin cancer. They form groups the outermost cells of which are often columnar in shape, and while the cells are prone to undergo a sort of mucoid disintegration, leading to the formation of cavities in the larger masses, they never become prickle-cells, and never form the epidermic globes so characteristic in cancroids. Furthermore, while the cells of ordinary epidermis and those of epithelioma stain in eosin, those of rodent ulcer do not; and in this latter affection there is much less inflammatory reaction in the connective tissue than is the case in epithelioma.

Dr. Thin has not been able to satisfy himself that in rodent ulcer the abnormal epithelial growth starts from the external root-sheath of the hair-follicles, as supposed by Drs. Fox and Sangster; but he adduces grounds for the belief that its origin is to be found in the epithelium of the sweat glands.

The diagnosis *intra vitam* of rodent ulcer from epithelioma is not always easy, and much of the discrepancy in the views which prevail as to the pathology of the former is due to errors of diagnosis on the part of the surgeon, ordinary cancerous ulcers having been mistaken for rodent ulcers.

The sections on diagnosis, prognosis, and treatment, do not call for special notice.

The Doctrine of Evolution in its application to Pathology. By WILLIAM AITKEN, M.D., F.R.S. Glasgow. 1886. Pp. 108.

To the philosophically-minded of our readers we would strongly recommend this book, which abounds in suggestive reasoning, and contains many indications for new lines of research.

It does not admit of a short analysis, but we can promise that it will amply repay the time spent in its perusal.

PART III.

HALF-YEARLY REPORTS.

REPORT ON SURGERY.

By WILLIAM THOMSON, M.A., F.R.C.S.I.; Surgeon to the Richmond Hospital, Dublin; General Secretary to the Academy of Medicine in Ireland.

ELECTROLYSIS IN THE TREATMENT OF ANEURYSM.

DR. J. C. WILSON, of Philadelphia (*International Journal of the Med. Sciences*, Jan., 1886, p. 162), records a case in which electrolysis was successful in retarding the progress of an enormous aneurysm of the aorta. The patient was a woman, aged seventy-four. The tumour occupied the whole of the subclavicular and much of the mammary region of the right side, extending from the margin of the sternum to the anterior axillary fold, and from just below the clavicle to the fifth intercostal space. It was irregularly circular in outline, with abrupt margins, and of a maximal elevation of about 2 to $2\frac{1}{2}$ inches. At several points there were elevated bosses, two of which were of a brownish-blue colour. There was strong pulsation over the whole surface. As the tumour rapidly increased in size in spite of medical treatment, it was determined to try electrolysis. Two needles, connected with the positive pole, were slowly introduced at points some distance from the upper and lateral borders of the tumour. They penetrated $1\frac{2}{3}$ inches, the points being freely movable within. A large electrode, covered with a thin layer of fine-grained sponge, well moistened and connected with the negative pole, was held firmly against the lower border. The battery was then put in action, 5 cells being at first employed, and the number rapidly increased to 10, 15, and finally 20 cells, with a current estimated at 12 milliampères. The patient suffered much pain upon the introduction of the needles, and at each increase in the number of cells. An attempt to use 23 cells caused suffering so intense that it was at once abandoned; 20 cells were used for thirty-five minutes. The needles were withdrawn slowly, and with a rotary

movement. A few drops of blood followed the one nearest the shoulder. The points of both were much eroded. For twenty-four hours cold water compresses were constantly applied to the tumour. As a result the pulsation seemed less forcible; but in eighteen days rapid extension began, and the wall became very thin at one point. Electrolysis was again employed in three weeks from the first operation. Three needles connected with the negative pole were introduced, and 20 cells were used from the beginning. At the end of twenty-eight minutes the pulsation was much diminished. In forty-five minutes the movement of the needles had almost ceased. The *séance* was continued for one hour. A small jet followed the withdrawal of one needle, and a fluid ounce of blood was lost. The bleeding was controlled by a compress. The patient died on the 8th September, the first operation having been performed on the 28th June. The intrathoracic aneurysm contained but a small quantity of laminated clot; the external tumour was densely filled with firm laminated clot. Notwithstanding the theoretical objections urged against the introduction of needles connected with the negative pole, the results in this case, the author submits, indicate its superiority to that method in which they are connected with the positive pole, when it is sought to promote the rapid coagulation of a large mass of blood in an external false sac. The relative merits of these methods, as compared with the alternate method of Ciniselli, or the introduction of needles connected with both poles, as advocated by Duncan, Balfour, and others, can be determined only by a critical analysis of the recorded cases.

TREATMENT OF INTESTINAL OBSTRUCTION BY THE FORCE-PUMP.

In the *International Journal of the Medical Sciences* (January, 1886, p. 168) Dr. Illoway urges the importance of injections with a force-pump. They do not cause any harm, and they aid in determining the question of opening the abdomen. He concurs in the view of Treves and others that O'Beirne's long tube cannot be passed beyond the sigmoid flexure; and that although the tube may disappear into the rectum, it is really curled up in the sigmoid portion of the colon. An enema, to be efficient, must have penetrating power to pass beyond the ileo-cæcal valve and into the small intestines, and it must be possessed of sufficient force to produce peristaltic action. He maintains that water can be thrown beyond the Bauhinian valve. Niemeyer states this explicitly;

Rothacker, of Cincinnati, has demonstrated it in the *post-mortem* room; and Battey, of Rome, Georgia, asserts the same thing. The author describes the pump which he uses, and mentions some cases in which its efficacy was proved.

ON THE REMOVAL OF TUMOURS FROM THE BLADDER.

A very interesting paper on this subject, by Mr. J. Greig Smith, of Bristol, appears in the *Brit. Med. Journal*, June 19, 1886, p. 1161, with a record of four cases. The following description of suprapubic cystotomy is very practical and valuable:—

“For the removal of tumours from the male bladder, the suprapubic operation is, in my opinion, by far the best. I have, on several occasions, had to perform the perineal operation for exploration or the removal of a foreign body, and I have four times performed suprapubic cystotomy—three times for calculus, and once for tumour. This experience has convinced me that, in the matters of affording greater facility in diagnosis, more freedom in operating, and fuller potentiality of extending the operation to removal of portions of the bladder, the suprapubic is by far the superior surgical method.

“The bladder is first washed out, by means of an irrigator, with warm boracic or boro-glyceride solution; and the catheter, a rubber one, is left *in situ*, with the long rubber tube and irrigator attached. The irrigator is placed on a table, at the level of the patient's bladder. The rectum is now dilated by a rubber bag, in the manner recommended by Petersen and Sir Henry Thompson. It is better to dilate with water than with air, because water can be measured. The suprapubic incisions are now made. Scalpel and catch-forceps are all the instruments necessary. The lower end of the incision ought to be carried at least half an inch over the symphysis; this gives additional room where it is most wanted, just above the bone. If the recti muscles be tense and thick, a little portion of their insertion into the pubic bones may be divided to give more space. The edges of the wound are kept apart by suitable retractors, held by an assistant. The finger of the surgeon is now placed on the bladder over the pubes, and an assistant raises the receptacle of the irrigator two or more feet above the level of the patient. The bladder dilates, and, as it dilates, the surgeon may feel the folded peritoneum gliding upwards, and may estimate the amount of tension put upon the bladder-walls. When the dilatation seems sufficient, the receptacle is again placed on a table at the level of the bladder, and left there. This simple plan does away with the necessity of tying the penis, is perfectly efficient, and occupies only a few seconds. I think it is better to make the preliminary incisions before the bladder is distended, as then there is a gap of cellular tissue between

the parietes and the vesical wall, and there is less risk of wounding the peritoneum. After the bladder is distended, the cellular tissue overlying it is teased aside; the peritoneum is pushed upwards, and any vessels are gently pushed out of the way.

“For opening the bladder, I would recommend the use of a Lister’s sinus-forceps. The closed points are first gently insinuated through the outer coat, then sharply plunged through the inner coats. The blades are separated, and, as they are separated, the bladder-wall is partly dilated, partly torn open, while, at the same time, it is pulled outwards into the wound. In the meantime, most of the lotion in the bladder will have escaped. When the opening is large enough to admit the finger, two tenaculum-forceps are placed on the lips of the wound, and held by the assistant while the finger is inserted. I have used fixation threads, introduced by a curved needle, but they are no better than forceps, and make openings of considerable size in the friable and distensible tissue. I am by no means certain that incision by a curved bistoury, first puncturing and then cutting outwards, would not, in respect of the advantages to be secured when the bladder wound is sutured, be the best mode of opening the bladder. Bleeding is a small objection, easily met by a catch-forceps and a ligature.

“Of the removal of the growth, nothing need be said. Suitable instruments will be at hand, and will be selected as the conditions indicate. Sir Henry Thompson’s bladder-forceps will be found invaluable in most cases.

“If the growth be malignant, and if, from its proximity to the ureters, or its connection with contiguous structures, it cannot be completely removed, all protuberant granulations which, sodden and macerated in the urine, are the chief source of bleeding, may be taken away. If the growth be well free of the ureters, and if it be confined to the bladder-tissues, an effort ought to be made to resect it. It will very rarely be the case that resection can be performed outside of the peritoneum. And if the tumour lie in a portion of the wall covered by peritoneum, it will rarely be advisable to peel it off that membrane, for the double reason that it might slough, and that it is likely to be infected with the growth. For resection of bladder-growths, I conceive that the most favourable conditions would be—a bladder kept dry by fine catheters placed in the ureters, and carried out through the penis; stuffing of the bladder cavity by dry sponges during the operation; prolongation of the incision upwards, with entrance into the peritoneal cavity; protection of the bowels by a large flat sponge; and suture of the bladder-wound on the principle of apposition of peritoneal surfaces. The operation has little more than passed beyond the stage of conception, and experience alone can show its feasibility.

“In every case of epicystotomy, I would suture the wounds in the bladder and the parietes, draining away the urine by a catheter in the

urethra. With the plan of separately suturing the bladder and the parietes I am by no means satisfied. My experience in four cases has been that matters progress most favourably for two or three days; the wound seems healed, and there is no leakage from the drainage-tube placed over the pubes. But, on the third or fourth day, the catheter ceases to act, and urine flows from the wound in small quantity, causing a fistula which may not close for one, two, or even three weeks. The trouble thereby induced may be slight, but its existence is a surgical imperfection.

“In my next case, I intend to adopt a plan which, at first sight, may seem to be objectionable. This is to include the bladder-wound in the parietal wound, and to fix both in one series of sutures. The advantages, as preventing urinary infiltration, and supporting the vesical wound by a solid mass of readily healing healthy tissue, are at once apparent; the only disadvantage is the fixation of the bladder too high up by cicatricial tissue. This disadvantage is, in my belief, insignificant. Times out of number the bladder has shown its capacity of acting normally in most abnormal situations; and even if it did not, we may fairly reason that, when the sutures are removed at the end of the week, the adhesive material then developed will stretch, and permit the bladder to fall back into its normal situation.”

SUPRAPUBIC LITHOTOMY.

Several cases of suprapubic lithotomy have been recently reported. Dr. J. Rutherford Morison, of Hartlepool (*Brit. Med. Journal*, May 1, 1886, p. 817), reports a case in a patient, aged fifty-two. A stone was detected in the ordinary way, and the lateral operation was performed, but the calculus could not be extracted. The bladder was then opened above the pubes, when an enormous stone was discovered. The lithotomy forceps failed to grasp it, and finally a midwifery forceps was sent for and used with success. There were in all three stones, of pure uric acid, the largest weighing 1 lb. $\frac{3}{4}$ oz., the long circumference being 12 inches, and the short $9\frac{3}{4}$ inches. The patient died on the fourteenth day, probably from disease of the kidneys.

Mr. Walter Rivington (*British Med. Journal*, April 3, 1886, p. 643) also reports a case. The stone could not be detected by the sound, but a large, smooth swelling was felt in the situation of the prostate. It was determined to explore by the perinæum, and a sound was then passed through the wound. A stone was discovered, but it was immovable. The bladder was at once opened above the pubes. The end of a stone was now found to project into the bladder through an opening posteriorly. It was grasped by a

forceps, but could not be moved. Lithotrites were useless; the stone was therefore broken up with a chisel and mallet, and removed piecemeal. The patient recovered from the operation; but three months afterwards he died of suppurative nephritis of the left kidney. The stone weighed $22\frac{1}{2}$ ounces, and appears to be the largest removed during life with recovery of the patient from the immediate effects of the operation. [See also cases of Barwell and Jacobson in same journal.]

SUBCLAVIAN ANEURYSM CURED BY GALVANO-PUNCTURE.

Dr. Saboia (*Lond. Med. Record*, May 15, 1886, p. 205) has presented to the Imperial Academy of Medicine of Brazil the history of a case of aneurysm of the right subclavian artery in a young man, aged thirty, cured by galvano-puncture. The tumour was of the size of a small hen's egg, bounded on the inner side by the sterno-mastoid, below by the clavicle, and on the outside by the trapezius. There was no difference between the pulsations of the two carotids, but the radial pulse of the left side was strong, full, and vibrating, while on the right side it was small, filiform, and scarcely perceptible. Two metallic needles were introduced into the tumour, and connected with the positive pole of a Gaiffe's pile of fourteen elements, the negative pole being applied to the trunk at a distance from the aneurysm. The sitting lasted thirty-five minutes, at the end of which the tumour had become tense and had ceased to pulsate.

DRAINAGE OF THE BLADDER BY POST-PROSTATIC PUNCTURE.

Mr. E. Howlett (*Brit. Med. Journal*, Feb. 13, 1886, p. 289), in a paper on the importance of drainage of the bladder in cystitis, describes the method of post-prostatic puncture which he adopts. The bladder being full, either with urine or with water introduced through the urethra, the patient is placed in the lithotomy position, the forefinger of the left hand is passed into the rectum, and made to explore the prostate and inferior surface of the bladder. Some sort of idea can then be formed of the distance the trocar will have to travel to reach the bladder, and the direction. The forefinger being retained in the rectum, a trocar and cannula of the size of a No. 12 catheter are thrust through the skin about $\frac{3}{4}$ -inch in front of the anus, and then slowly pushed on until resistance is felt to have disappeared; the trocar is then withdrawn and the bladder emptied. It is then better to pass a No. 8 red-

elastic tube into the bladder, and withdraw the cannula. Finally a tube is attached to the catheter, and the urine drains into a bottle. In two cases, which he reports, the proceeding was quite successful.

RE-INFUSION OF BLOOD IN PRIMARY AND OTHER AMPUTATIONS.

Dr. John Duncan (*Brit. Med. Journal*, Jan. 30, 1886, p. 192) records a case in which he practised re-infusion of blood with success. The patient was seen eight hours after a severe railway injury, necessitating amputation through the lower third of the thigh. The man was quite collapsed. The limb was rapidly removed, and the blood which escaped (in all about three ounces) was caught by an assistant in a dish containing a solution of phosphate of sodium. After the arteries had been tied it was difficult to say whether the patient was dead or alive; but the operator proceeded to inject the blood and phosphate of sodium, mingled with distilled water in the last syringeful to increase the quantity. In all about eight ounces were thrown into the femoral vein on the face of the stump. The patient rallied, and ultimately recovered. The author observes:—"I attach much importance to the perfect fluidity of the blood and the aseptic condition of all the instruments. In no case had our patient the slightest fever, rigor, or disturbance of any sort subsequent to the operation. Glass was purified by prolonged immersion in a solution of bichloride of mercury—metal in carbolic acid. For introduction into the vein of the receiver I use a short glass tube of the size of a No. 6 catheter, having a pen-shaped point. To its other end, made slightly bulbous, about two inches of india-rubber is attached. A simple glass syringe, holding four ounces, whose nozzle fits the tubing, is perfectly effective. I keep up the temperature by surrounding it (the syringe) with boric lint wrung out of hot water. A graduated glass vessel, kept floating in warm water, contains the solution of phosphate of soda and receives the blood. All are washed with aseptic water after removal from the anti-septic solution, and before being used. In amputations the most convenient vein is selected on the face of the stump, the glass point is inserted, and a catgut ligature put round it. While the process of ligaturing the arteries is going on, the blood is caught by one assistant, who adds the soda-solution as required, and is slowly injected by another. There is no time wasted, and the amount put into the circulation is precisely proportioned to what

the patient would otherwise have lost, *plus* what amount of saline solution the surgeon may think right and appropriate to the case." A five per cent. solution of phosphate of sodium was used in cases of anæmia—not traumatic—but a slightly larger proportion is probably advisable in amputation cases. The process of re-injecting the patient's own blood is incompatible with the use of the spray, or irrigation, during the operation.

LIGATURE OF THE INNOMINATE ARTERY.

The arteria innominata has been ligatured by Mr. Bennet May, of Birmingham, and he gives a very full and most interesting account of his case in the *Lancet* of June 5, 1886, p. 1064. The patient was a brewer's labourer, aged thirty, who had noticed the aneurysm of the right subclavian only nine weeks before his admission to hospital. Medical treatment having failed, Mr. May determined to apply a ligature to the innominate. The artery was found to be about an inch in diameter. The material used was ox-aorta, as introduced by Mr. Barwell. In tightening the tape the operator had to draw the ends with very considerable force to stop the pulsation, the vessel offering great resistance. Just at the critical moment, however, the material broke across, and a second piece suffered the same fate. Mr. May then endeavoured to imitate the principle of the flat ligature by using a cord made up of five or six medium-sized threads of catgut. This bore the strain very well. The wound remained perfectly aseptic, and the patient free from fever. On the third day slight pulsation returned in the aneurysm; but the tumour became smaller and harder, until on the 13th day a slight stain of blood appeared on the dressing. This was followed by several hæmorrhages, and the patient died on the 14th April, the operation having been performed on the 27th March. The position of the ligature was marked by a deep constriction almost exactly in its centre. The structures over the ligature were solid and organised except at the knot, which was exposed; there was no purulent infiltration. The ligature still retained a firm hold on the vessel; one or two of the threads were partially absorbed and softened, but others were scarcely changed. The knot, unfortunately very large and hard, was quite unaltered. Under the knot, in front of the vessel and in the line or bend of its wall, was the obvious source of the hæmorrhage, in the form of a ragged hole about the size of a small pea; this opened into the vessel on both sides of the ligature. The inner coats

of the artery were intact. A small chink remained between the crumpled-up folds of the vessel, the remainder being occluded by adhesion of the inner coats. The chink was closed by a moderately firm clot; a similar clot, with a conical end, extended along the distal side of the artery nearly to bifurcation. The clot was only slightly adherent to the interior of the vessel except under the ligature, where the adhesion was more firm. The hole in the wall of the artery having been closed, it was shown, by injecting water, that the vessel was wholly occluded at the seat of ligature. Mr. May's observations upon the operation are very valuable, and will repay perusal.

RESEARCHES ON MYOHÆMATIN AND THE HISTOHÆMATINS.

DR. C. A. MACMUNN has found that the organs and tissues of invertebrate and vertebrate animals, from echinoderms to man, present a series of spectra which are all evidently connected with each other. In general the spectra may be said to consist of three bands—one before D, one or two between D and E, and sometimes one or two others nearer violet. The pigments to which these spectra are due are called histohæmatins, and occur in an oxidised and deoxidised condition. In all animals who possess striped muscle there is to be found in their tissue a yellow or reddish-yellow pigment, myohæmatin, distinguished by the sharpness and narrowness of its bands. Three bands are always present—one between C and D, close to D, which corresponds to the first band of the histohæmatins spectrum; two very narrow and sharp bands between D and E, and one or two nearer violet, not constantly present. Dr. MacMunn concludes that these pigments are concerned in the internal respiration of the tissues and organs in which they are found. Hæmochromogen has been found by the same indefatigable observer in the suprarenal capsules of several animals. This pigment would appear to be here, as in other places—*e.g.*, the bile—excretory. Hence one of the functions of the suprarenal capsules is to cause a downward metamorphosis of hæmoglobin and the histohæmatins. If from disease this metabolism is prevented, the incompletely metabolised pigments circulate in the blood, and staining of the skin and mucous membrane, as in Addison's disease, may take place. Dr. MacMunn has found in the urine of Addison's disease such an imperfect metabolit.—*Proc. Roy. Soc.*, 240, 1886.

PART IV.
MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ACADEMY OF MEDICINE IN IRELAND.

President—ROBERT M'DONNELL, M.D., F.R.S.

General Secretary—W. THOMSON, M.D.

MEDICAL SECTION.

President—F. R. CRUISE, M.D.; President and Fellow, King and Queen's College of Physicians.

Sectional Secretary—A. N. MONTGOMERY, M.K.Q.C.P.

Friday, March 26th, 1886.

The PRESIDENT in the Chair.

Living Specimens.

DR. R. A. HAYES exhibited a patient from whom a recurrent papilloma of the larynx had been removed [growth exhibited].

DR. DUFFEY exhibited a case of scleroderma.

Periostitis following Enteric Fever.

DR. H. C. TWEEDY detailed a case of this comparatively rare affection. The patient, a man aged thirty-three, was treated in Steevens's Hospital for enteric fever, from which he made a favourable recovery, but, shortly after convalescence had commenced, his temperature again rose and a painful fluctuating tumour, oval in shape, appeared beneath the sternal attachment of the great pectoral muscle on the right side, and corresponding to the second, third, and fourth ribs, and their cartilages. After some time the swelling subsided, and finally disappeared altogether.

Having alluded to the descriptions given of this disease by Sir James Paget, Dr. Affleck of Edinburgh, Prof. Strümpell of Leipsig, and other authors, who variously assigned as its cause direct injury, septicæmia, and impaired nutrition, Dr. Tweedy concluded by remarking upon some

of the principal characteristics of the disease:—(1) That it occurs most commonly during the stage of convalescence, although cases are recorded in which it appeared as an actual complication of enteric fever. (2) That it attacks most frequently the tibia and the ribs, but that it has been observed on the femur, the humerus, the ulna, and the parietal bone, and that it rarely occurs on more than one bone at a time. (3) That the disease is usually chronic in its course, suppuration generally taking place after a time. That sometimes necrosis follows when the long bones have been engaged, although this termination has not been noticed in periostitis of the ribs, while occasionally, as in the instance cited, the case terminates in a spontaneous cure.

DR. MACSWINEY mentioned that about a year and a half ago he attended a case of typhoid in an otherwise robust and healthy gentleman. The attack was of a severe and prolonged character, imperilling his life; and, at the end of the third or fourth week, the case was complicated by intestinal hæmorrhage. Defervescence setting in, the patient recovered. But he suffered from a severely painful condition of the integuments over the sternum, one of the ordinary characteristics of periostitis—a condition, however, which yielded to treatment without suppurating, disappearing after a week or ten days.

The REGISTRAR-GENERAL (DR. GRIMSHAW) said the account in the *Medical Press* of a case which he had observed was very meagre; but he had not himself treated the case in the first instance. The medical gentleman attending had stated that the case was one of gastric fever, and, having passed out of his hands, a swelling occurred in the upper jaw. On account of the condition of the jaw, the child, eight years old, was brought to his (Dr. Grimshaw's) father, a dental surgeon. There was a local cause which might have contributed to it—namely, second dentition, and some of the second teeth had come away. He had no doubt it was a case of enteric fever that was followed by that condition; but he had never seen a case of periostitis occurring in enteric fever himself.

DR. HENRY KENNEDY said the strumous diathesis frequently led to the disease. He had himself seen a case where the patient having passed through typhoid fever complained of a pain in the shin. The late Surgeon Trant saw that case, and stated that the periosteum was the part in which it commenced.

The Murmurs of the Mitral Area.

DR. C. J. NIXON read a communication on cardiac murmurs of the mitral area. [It will be found in the Number of this Journal for June, 1886, Vol. LXXXI., page 473.]

DR. FINNY called attention to an additional cause of presystolic murmur which had recently come under his own observation, and no other example

of which had he yet found. In Sir Patrick Dun's Hospital there was a case of simple hypertrophy of the left ventricle from cirrhosis of the kidney. Subsequently dilatation of the cavity had taken place, and there was the systolic sound of mitral regurgitation of a functional nature—a case of weakening muscle already in a state of hypertrophy. During the last ten days of the patient's life in hospital a new murmur developed—namely, a presystolic murmur. He could not then explain it; but after death, which ensued on epileptic convulsions of the uræmic type, he discovered the cause. Looking at the heart, there was hypertrophy of the left ventricle with some dilatation; but all round the mitral curtains there was a large mass of fibrin deposited as large as a filbert, especially behind the ventricular aspect of the posterior valve. He believed that to be the true explanation of the presystolic murmur during the last ten days. Embolism was recognised during life, due doubtless to this thrombus, and there was an enormous obstruction of the spleen, the largest he ever saw; but he was not prepared to find so large a quantity of *ante mortem* clot existing in that condition, nor was he aware that such a condition could produce such a narrowing of the orifice as to produce a presystolic murmur.

DR. WALTER SMITH proposed dealing merely with one or two points of the paper, which would afford discussion for a week, and which was entitled to consideration on account of Dr. Nixon's large experience in cardiac affections. Since the publication of Stokes' great work in 1854, there had been no considerable advance in the knowledge of the diagnosis of cardiac diseases, except in the lesion known as mitral narrowing. All valvular lesions tended to incompetence, and, therefore, mitral stenosis was sooner or later complicated with mitral reflux. He objected to suggesting phrases of terminology such as postdiastolic, perisystolic, and presystolic, which were cumbrous and calculated to mystify a student. It was quite sufficient to use the terms diastole of the ventricle or systole of the auricle. Furthermore, the diagnosis between functional and organic murmurs was remarkably more difficult in the case of a mitral orifice than the aortic. There was abundant evidence that so-called functional murmurs might be heard in the interscapular region. The murmur in mitral regurgitation was not produced at the valve but in the left auricle. The site of the murmur was in the auricle, not at the valve, and consequently the wonder was that it was occasionally heard over the left auricle. He questioned the so-called law of the convection of cardiac murmurs. The theory of the production of murmurs by what was known in physics as a fluid vein, was suggested by Dr. Nixon's paper as the current view on the subject; but it was not only disputed by clinical but denied by physical observers. According to the most recent investigators the cause of the first sound lay exclusively in the muscular contraction of the heart.

DR. C. J. NIXON, in reply, said, in reference to Dr. Finny's observation, he had never heard of a presystolic murmur being produced by an *ante mortem* clot. It would be useless to discuss some of the points raised by Dr. Smith. He did not think they could ever agree as to what was the precise cause of murmur. Many reliable authorities entertained the view first introduced by Corrigan, that the physical explanation of a murmur by the development of fluid veins was the correct one, and with them he did agree. Dr. Smith implied that there was an attempt at over-refinement in using the terms postsystolic, presystolic, and the like; but, in admitting the great difficulty in many cases of determining functional from organic disease, he must likewise admit the justification, even on theoretical grounds, of using every possible means to arrive at a correct diagnosis. Dr. Smith mentioned that all valvular lesions tended to regurgitation, and especially mitral stenosis, but he could not agree with Dr. Smith in this, as in mitral stenosis regurgitation which existed at an early stage in the lesion ceased to exist towards the end from progressive narrowing of the orifice, or from such an increased tension in the auricle as prevented reflux. Many advances had been made in the study of heart disease since the time of Stokes, especially in the diagnosis of mitral narrowing and in functional lesions of the mitral area.

Morbid Appearances in Enteric Fever.

DR. JAMES LITTLE described a case of enteric fever, and exhibited the parts removed after death. The peculiarity of the case was, that although there was unusually extensive ulceration, both of the small and large intestines, the symptoms during life had been mainly cerebral.

Enteric Fever fatal by Perforation.

DR. WALLACE BEATTY read notes of a case of enteric fever fatal by perforation. The patient, a woman, aged thirty-four, was attacked on the twelfth day of illness with a rigor, severe abdominal pain and tenderness, and diarrhœa—the bowels before had been confined. On the thirteenth day there was a rather copious hæmorrhage from the bowels—this did not recur. Patient suffered until her death on the eighteenth day from abdominal pain and tenderness and marked prostration. On *post mortem* examination general peritonitis was found, and a perforation in the floor of a large ulcer, situated $10\frac{1}{2}$ inches above the ileo-cæcal valve. The interest in the case was that the extent of intestinal disease was very limited, there being in all only five ulcers, two of them were very minute, they were all situated at the termination of the ileum, the highest being the one that had perforated. The rest of the small intestines and the large intestines were healthy.

The Section adjourned.

Friday, April 30, 1886.

DR. FINNY, and afterwards the PRESIDENT, in the Chair.

On the Quantitative Estimation of Sugar in the Urine by the Polariscopes.

DR. CRUISE read a communication upon the estimation of sugar in the urine by the polariscopes, and demonstrated the operation with the instrument known as the Yvon-Duboscq Diabétomètre. [It will be found in the Number of this Journal for June, Vol. LXXXI., page 490.]

The CHAIRMAN said they were much indebted to the President for this method, which, he believed, would be of great use to practitioners in testing the amount of sugar in urine.

DR. TICHBORNE said he was indebted to Dr. Cruise for his first introduction to this instrument, and was in a position to bear testimony to the utility of this very excellent polariscope, which would be effectual in estimating the quantity of sugar in any substance. He presumed that his own and the President's instruments were the only two in Ireland. The paper issued by the makers of the polariscope stated that either charcoal or acetate of lead might be used for decolourising the urine. He thought that charcoal was not desirable, because it slightly reduced the percentage of sugar. He had found that where charcoal was used the amount shown was $\cdot 85$, while in the case of acetate of lead it was $\cdot 94$; so that the use of charcoal involved a sacrifice of accuracy, and care should be taken not to use more acetate of lead than sufficed to decolourise the urine. Unless the fluid was perfectly bright it could not be used; but if an over-quantity of the acetate were employed, the fluid would be rendered sensitive to the carbonic acid of the atmosphere, and would become muddy almost as quickly as it was filtered. The speaker was in the habit of adding a few drops of a solution of basic acetate of lead, the quantity being determined by intensity of the colour of the urine; water was then added in sufficient quantity to double the volume of the urine. By this method an excess of acetate of lead was avoided, and it was only necessary to multiply the results obtained by twenty to gain percentage. In some cases the volumetric analysis was more reliable than this polariscopic method; but, generally speaking, the latter proved the more reliable in two out of three cases. In using the polariscope it was necessary to guard against fluctuations of temperature, and too high a temperature. Each degree Fahrenheit made a difference of $\cdot 2$ in the rate of rotation exhibited with inverted sugar, and also a considerable difference in right-handed rotation. He had found that 60° Fahrenheit was the best temperature in which to use the method. The volumetric process was, no doubt, also liable to errors. In certain conditions of urine where urates and oxalates predominated, the speaker had noted that by the volumetric process he got

4·8 per cent., and by the polariscope 4·5 per cent. Therefore, as the polariscope gave a lower result than the volumetric method where the quantity of urates was large, a slight reduction should be made in the estimation or the urates must be removed. The presence of ammoniacal salts was also a disturbing factor, and must be taken into account in estimating the result. All these difficulties could easily be met by an expert when applying the volumetric method; they, however, require time and considerable practical experience, but they need not be taken into account at all in applying the polariscope. Another advantage of the polariscope was the ease with which it could be worked in artificial light as compared with the volumetric method. If the sunlight was bright and changing, the iris of the eye did not accommodate itself to the fluctuations with a sufficient amount of promptness to enable the operator to work with ease, but this disturbance did not occur where the light was artificial. Now it was extremely difficult by artificial light to work the volumetric process satisfactorily. The exact point where the faint blue of the copper was destroyed, as every expert was aware, was not easily determined under such conditions.

This excellent instrument was really only a well-made and simplified polariscope, working with a monochromatic flame and capable of determining right- or left-handed rotation. The only excuse for christening the instrument *Diabétomètre*, is the system of graduation adopted, which requires to be multiplied or divided, as the case might be, by 2·256, to convert it in polariscopic degrees.

DR. WALTER SMITH said this instrument was sufficiently accurate for clinical purposes. If great accuracy was required, the palm must be yielded to chemical methods. This optical method was not reliable for percentages of sugar smaller than half per cent. It was not a positive test of sugar, for it went on the assumptions that urine contained no active substance except glucose, and that the optical behaviour of glucose was the same as that of distilled water. But the first of these assumptions was not true. Of late years it had been conclusively shown that in diabetes the urine contained not only glucose, which was dextrogyrate when seen optically, but also a peculiar acid, which was lævogyrate. In such a case the amount of sugar would be represented by the difference in rate between the two gyrations. Again it had been made out that a large class of substances, several of which were now used in medicine, passed out in the urine in a chemical form, which excited a left-handed rotation in polarised light. This was true of a large group of bodies, including aromatic compounds, alcoholic derivatives, chloral, &c. Therefore the polariscope could not be accepted as an unerring determinant of the amount of sugar in diabetic urine. On a former occasion the President had expressed himself in favour of charcoal as a decolourising agent; but, as Dr. Tichborne had pointed out, charcoal introduced an

element of fallacy—because it not only retained the colouring matter, but also a not inconsiderable proportion of sugar. Nevertheless, the profession were indebted to the President of the College of Physicians for exhibiting this simple and practically useful instrument.

DR. QUINLAN said he had used for some years the Rev. Dr. Jellett's saccharometer. It was well suited for research, but the process was quite too tedious for the purposes of the physician. That proposed by Dr. Cruise was quite accurate enough for clinical purposes; it obtained a comparatively rapid result. He agreed with Dr. Smith as to the errors that might be produced by the presence of aromatic substances in the urine when this polariscope was used; but he did not think that for clinical purposes they need be taken into account.

DR. NIXON said he agreed with Dr. Smith that strict scientific accuracy could not be obtained by the polariscope exhibited. But in the case of a patient who had been for some time under treatment for diabetes, and concerning whom observations had to be made as to the influence of restricted dietary, it was desirable to ascertain quickly, especially in reference to prognosis, whether any material change had taken place in the condition of the urine, and he considered Soliel's instrument, or its modifications by Duboscq and Mitcherlich, very valuable in arriving rapidly at a conclusion on the point. The prognosis of a case of diabetes depended on how much the elimination of sugar could be affected by a very carefully regulated dietary, and it was in many respects inconvenient that a patient should be detained for one or two hours while an exact quantitative analysis of the urine was made by the volumetric method. He considered if a determination of the amount of sugar present could be arrived at in twenty minutes by the polariscope it was a gain in practical medicine. No doubt if they wanted to determine with scientific accuracy the number of grains of sugar excreted, the observation must pass from the domain of the practical physician into that of the analytical chemist. He had for some years used the instrument of Soliel-Ventzke, of which the present one was a modification. The chief difficulties in connection with its use were—first, the trouble it involved in decolourising the urine; secondly, that some nice manipulation was required in order to prevent bubbles of air from getting into the glass tube; and, thirdly, that after each application the India-rubber washer usually got firmly attached to the glass slide, and necessitated some trouble in removing it. These difficulties, however, were got over by a little practice in the use of the instrument.

Dr. Nixon, however, regarded one point as of special importance in the use of the saccharometer. It had been noted that a solution of albumin had the power of rotating the plane of polarisation to the left, and of course this would be of the utmost importance to bear in mind in those cases, not uncommon, where diabetes mellitus coexisted with albuminuria.

The PRESIDENT, in reply, said he was much obliged to Dr. Tichborne for his weighty testimony in favour of this polariscopic method. With reference to charcoal he had given up the use of it, because he found that if not perfectly fresh it was not effective. Acetate of lead was not open to that objection, and, therefore, he had latterly adopted it. He could work this instrument either in daylight or with candlelight, and best of all in a dark room. As regards accuracy he admitted that it was not perfect, but it had the great advantage of obtaining a prompt result. No doubt the errors produced by substances causing opposite rotations were to be guarded against, but similar errors might occur with the volumetric method, and he had tested a vast number of specimens of non-saccharine urine, and had detected no rotation.

The President then took the chair.

Clinical Notes in a Case of Lichen Planus.

DR. FINNY remarked upon the rarity of such cases in this country, and quoted Dr. Taylor, of New York, and Erasmus Wilson in support of the same rarity in America and England. [His paper will be found in the Number of this Journal for June, Vol. LXXXI., page 502.]

DR. WALTER SMITH said he saw Dr. Finny's patient through his courtesy, and he had to congratulate both him and the patient on the successful result of his treatment. It was an affection not commonly recognised in this country as yet, and was rather rare, but was not one of the curiosities of skin disease. The diffuse severe form of it, which sometimes had a fatal result, had not been observed as yet. It was generally admitted that the lichen planus of Wilson was a localised and mitigated form of the lichen ruber of Hebra. He had seen cases of it which were extremely like papular syphilis. It was some times also like psoriasis, and when localised about the joints might be mistaken for it. But when once psoriasis showed itself after the first attack was cured, the unfortunate patient was almost certain to have severe relapses, which might cover every square inch of his body; whereas, in lichen planus, although second attacks were not uncommon, the patient had generally a better chance with the second attack than the first. As to treatment, he was not quite in accord with Dr. Finny as to the rebellious behaviour of arsenic. He did not believe in arsenic as a panacea for all diseases of the skin, but he believed that many cases of lichen planus would get well under a judiciously managed course of arsenic, which, however, should be pushed to the extent of physiological saturation. That was done in Dr. Finny's case without any untoward result. His own experience pointed to the amenability of this disease to arsenic, and to the comparative inutility of local applications. The itching was very difficult to relieve. He had seen extensive outbreaks of the disease attended with very little annoyance of that kind, and local outbreaks, on the contrary,

in which the itching was intolerable. A curious feature was that considerable extravasation of blood took place about those curious papules, and the altered blood-matter resulted in a brown pigmentary substance, which remained sometimes for months after the first efflorescence had subsided, and which might then lead to erroneous diagnoses.

DR. HENRY KENNEDY said his experience of the use of arsenic in this disease was that in the vast number of cases it at first made the skin worse. But that he looked on as a useful sign, and as indicating that the skin had come under the power of treatment. He had used Fowler's solution of arsenic, and had found in a considerable number of cases that the stomach of the patient would not bear it. Hunt, who was one of the first writers who advocated the use of arsenic, spoke of it as a medicine that could be invariably used, but that had not been his (Dr. Kennedy's) experience. He had been obliged in many cases to give it up altogether. He did not think this disease could be regarded as a form of psoriasis, but it probably belonged to the same family of diseases.

DR. JAMES LITTLE said he had seen only two cases of lichen planus. In one of these the patient derived great benefit from the waters of Aix les Bains. He admitted that some persons could not take arsenic; but if all the directions in Hunt's most valuable chapter on the mode of administering arsenic were attended to, he believed that a great many could be made to bear it.

DR. FINNY, in reply, remarked that Unna advocated a local treatment, consisting chiefly of carbolic acid, and in many cases it would be a matter for consideration whether such treatment should not supersede the use of arsenic. They all met cases in which arsenic produced such irritation of the stomach that its use had to be given up, but in such cases it could be applied hypodermically. He did not think this disease could be well confounded with psoriasis. The scaling which was such a prominent feature in the latter disease was quite in contrast with the glazy surface and the papules of lichen planus. Nor could lichen planus be regarded as a mild form of lichen ruber, in which the very minute papules were quite different from those of the former disease.

The Section then adjourned.

THE TREATMENT OF MENORRHAGIA.

DR. WM. GOODELL says:—"In young girls, as a rule, a powerful tonic treatment is required. Sometimes the iron is not sufficient, and I have to resort to astringents and tonics not ferruginous. I have used bichloride of mercury and quinine in these cases. Occasionally we meet with cases of this kind in which the patient apparently is in robust health. Under such circumstances I know of nothing better than iodide of potassium."—*Med. Record*, June 26.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D. Univ. Dubl.; F.K.Q.C.P.;
F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, July 17, 1886.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

TOWNS	Weeks ending				TOWNS	Weeks ending			
	June 26.	July 3.	July 10.	July 17.		June 26.	July 3.	July 10.	July 17.
Armagh -	10·3	10·3	31·0	10 3	Limerick -	20·2	12·1	17·5	22·9
Belfast -	20·5	22·6	18·1	21·2	Lisburn -	14·5	48·3	14·5	19·3
Cork -	22·1	20·1	22·7	13·6	Londonderry	23·2	8·9	30·3	26·7
Drogheda	12·7	4·2	12·7	25·4	Lurgan -	20·5	35·9	30·8	0·0
Dublin -	24·1	21·3	22·2	19·3	Newry -	21·1	10·5	14·0	10·5
Dundalk -	4·4	17·5	21·8	8·7	Sligo -	0·0	9·6	24·1	4·8
Galway -	23·5	23·5	10·1	23·5	Waterford -	20·8	25·5	13·9	23·2
Kilkenny	25·4	8·5	8·5	21·1	Wexford -	17·1	12·8	17·1	21·4

In the week ending Saturday, June 26, the mortality in twenty-eight large English towns, including London (in which the rate was 15·4), was equal to an annual death-rate of 17·0 per 1,000 persons living. In Glasgow the rate was 22·5; and in Edinburgh it was 20·8.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 21·5 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in nine of the districts, to 8·9 in Londonderry; the 13 deaths from all causes registered in that district comprise 1 each from typhus, whooping-cough, diphtheria, enteric fever, and diarrhœa. The 87 deaths from all causes registered in Belfast comprise 1 from enteric fever, and 4 from diarrhœa. Among the 34 deaths in Cork are 3 from diphtheria; and the 15 deaths in Limerick comprise 1 from typhus and 1 from diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 195—90 boys and 105 girls—and the deaths to 167—83 males and 84 females.

The deaths represent an annual rate of mortality of 24·7 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 24·1 per 1,000.

Thirteen deaths from zymotic diseases were registered, being one over the number for the week ended June 19, but 13 under the average for the 25th week of the last ten years; they comprise 3 from scarlet fever (scarlatina), 3 from whooping-cough, 1 from diphtheria, 1 from cerebro-spinal fever, 2 from enteric fever, 1 from diarrhœa, &c.

Eleven cases of scarlatina were admitted to hospital during the week, being 2 under the admissions for the preceding week; 9 scarlatina patients were discharged during the week, and 53 remained under treatment on June 26, being 2 over the number in hospital on the previous Saturday.

Two cases of typhus and 5 of enteric fever were admitted to hospital during the week; 6 cases of the former and 11 of the latter disease remained under treatment on June 26.

Twenty-nine deaths from diseases of the respiratory system were registered, being equal to the average for the corresponding week of the last ten years, and 2 over the number for the week ended June 19; they comprise 15 from bronchitis and 9 from pneumonia or inflammation of the lungs.

In the week ending Saturday, July 3, the mortality in twenty-eight large English towns, including London (in which the rate was 12·8), was equal to an average annual death-rate of 17·6 per 1,000 persons living. In Glasgow the rate was 24·1; and in Edinburgh 19·6. The average annual death-rate in the sixteen principal town districts of Ireland was 20·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·7 per 1,000, the rates varying from 0·0 in eleven of the districts to 2·7 in Limerick; the 9 deaths from all causes registered in that district comprise 1 from whooping-cough and 1 from diarrhœa. Among the 96 deaths from all causes registered in Belfast are 2 from simple continued and ill-defined fever, 3 from enteric fever, and 5 from diarrhœa; and the 31 deaths in Cork comprise 1 from each of the following diseases, viz.:—scarlatina, typhus, and enteric fever.

In the Dublin Registration District the births registered during the week amounted to 235—118 boys and 117 girls—and the deaths to 155—71 males and 84 females.

The deaths represent an annual rate of mortality of 22·9 in every

1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 21·3 per 1,000.

Fourteen deaths from zymotic diseases were registered, being 1 over the number for the preceding week, but 15 under the average for the 26th week of the last ten years: they comprise 1 from scarlet fever (scarlatina), 1 from typhus, 4 from whooping-cough, 3 from enteric fever, 3 from diarrhœa, &c.

Twelve cases of scarlatina were admitted to hospital during the week, being 1 over the admissions for the preceding week; 14 scarlatina patients were discharged during the week; 2 died; and 49 remained under treatment on Saturday, July 3, being 4 under the number in hospital on the previous Saturday.

There was but 1 case of typhus admitted to hospital during the week.

Six cases of enteric fever were admitted, being 1 over the admissions for the preceding week; one patient was discharged during the week; one died; and 15 remained under treatment on July 3, being 4 over the number in hospital on the previous Saturday.

Only 14 deaths from diseases of the respiratory system were registered, being 17 below the average for the corresponding week of the last ten years, and 15 under the number for the week ended June 26. The 14 deaths comprise 8 from bronchitis and 4 from pneumonia or inflammation of the lungs.

In the week ending Saturday, July 10, the mortality in twenty-eight large English towns, including London (in which the rate was 19·4), was equal to an average annual death-rate of 18·4 per 1,000 persons living. In Glasgow the rate was 18·8; and in Edinburgh 20·4.

The average annual death-rate represented by the deaths registered last week in the sixteen principal town districts of Ireland was 20·4 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·7 per 1,000, the rates varying from 0·0 in nine of the districts to 5·1 in Lurgan; the 6 deaths from all causes registered in that district comprise 1 from diarrhœa. The 77 deaths from all causes registered in Belfast comprise 1 from measles, 1 from scarlatina, 1 from typhus, 1 from ill-defined fever, and 2 from diarrhœa. Among the 35 deaths in Cork are 2 from scarlatina, 1 from enteric fever, and 2 from diarrhœa; and the 4 deaths in Wexford comprise 1 from diphtheria.

In the Dublin Registration District the births registered during the week amounted to 204—103 boys and 101 girls—and the deaths to 156—86 males and 70 females.

The deaths represent an annual rate of mortality of 23·0 in every

1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 22·2 per 1,000.

Twenty-one deaths from zymotic diseases were registered, being 7 over the number for the preceding week, but 3 under the average for the 27th week of the last ten years; they comprise 1 from measles, 4 from scarlet fever (scarlatina), 1 from typhus, 2 from whooping-cough, 2 from cerebro-spinal fever, 1 from ill-defined fever, 1 from enteric fever, 4 from diarrhœa, 2 from erysipelas, &c.

Fourteen cases of scarlatina were admitted to hospital during the week, being two over the admissions for the preceding week; 13 scarlatina patients were discharged during the week; 1 died; and 49 remained under treatment on July 10, being equal to the number in hospital on the previous Saturday.

Five cases of typhus were admitted to hospital against one admission during the preceding week, but, on the other hand, while there were 6 cases of enteric fever then admitted, no new enteric cases were admitted in the week now closed. Seven cases of typhus and 11 of enteric fever remained under treatment in hospital on Saturday, July 10.

Twenty-six deaths from diseases of the respiratory system were registered, being 4 in excess of the average for the corresponding week of the last ten years, and 12 over the number for the week ended July 3. They comprise 11 from bronchitis and 10 from pneumonia or inflammation of the lungs.

In the week ending Saturday, July 17, the mortality in twenty-eight large English towns, including London (in which the rate was 21·1), was equal to an average annual death-rate of 19·7 per 1,000 persons living. In Glasgow the rate was 21·7; and in Edinburgh 18·2.

The average annual death-rate in the sixteen principal town districts of Ireland was 19·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·7 per 1,000, the rates varying from 0·0 in Waterford, Newry, Kilkenny, Sligo, Lisburn, Lurgan, and Armagh to 4·4 in Dundalk; the 2 deaths from all causes registered in the last-named district comprise 1 from diarrhœa. The 90 deaths from all causes registered in Belfast comprise 3 from scarlatina, 1 from whooping-cough, 1 from diphtheria, and 5 from diarrhœa; and the 15 deaths in Londonderry comprise 1 from whooping-cough and 1 from ill-defined fever.

In the Dublin Registration District the births registered during the week amounted to 172—89 boys and 83 girls—and the deaths to 133—68 males and 65 females:

The deaths represent an annual rate of mortality of 19·6 in every

1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 19·3 per 1,000.

Seventeen deaths from zymotic diseases were registered, being 4 under the number for the preceding week, and 7 under the average for the twenty-eighth week of the last ten years; they comprise 1 from scarlet fever (scarlatina), 2 from typhus, 1 from diphtheria, 1 from cerebro-spinal fever, 2 from simple-continued and ill-defined fever, 1 from enteric fever, 4 from diarrhœa, 1 from erysipelas, &c.

Nine cases of scarlatina were admitted to hospital during the week, being 5 under the admissions for the preceding week; 4 scarlatina patients were discharged during the week; and 54 remained under treatment on July 17, being 5 over the number in hospital on the previous Saturday.

One case of typhus was admitted to hospital against 5 admissions during the preceding week; 1 patient was discharged during the week; 1 died; and 6 remained under treatment on Saturday, July 17, being 1 under the number in hospital at the close of the preceding week.

Three cases of enteric fever were admitted to hospital during the week; 1 was discharged during the week; and 13 remained under treatment on Saturday, July 17, being 2 over the number on the previous Saturday.

Fourteen deaths from diseases of the respiratory system were registered, being 12 under the number for the week ended July 10, and 10 below the average for the corresponding week of the last ten years. They comprise 8 from bronchitis, 1 from pneumonia, and 3 from croup.

METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N.,
Long. 6° 15' W., for the Month of July, 1886.*

Mean Height of Barometer,	-	-	-	29·873 inches.
Maximal Height of Barometer (on 3rd, at 9 a.m.)	-	-	-	30·346 ,,
Minimal Height of Barometer (on 13th, at 11 p.m.)	-	-	-	29·355 ,,
Mean Dry-bulb Temperature,	-	-	-	60·6°.
Mean Wet-bulb Temperature,	-	-	-	56·3°.
Mean Dew-point Temperature,	-	-	-	52·5°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·397 inch.
Mean Humidity,	-	-	-	75·4 per cent.
Highest Temperature in Shade (on 3rd),	-	-	-	78·7°.
Lowest Temperature in Shade (on 9th),	-	-	-	48·6°.
Lowest Temperature on Grass (Radiation) (on 9th),	-	-	-	42·0°.
Mean Amount of Cloud,	-	-	-	65·5 per cent.
Rainfall (on 18 days),	-	-	-	1·722 inches.
Greatest Daily Rainfall (on 17th),	-	-	-	·340 inch.
General Directions of Wind,	-	-	-	N.W. & S.W.

Remarks.

Although it opened with brilliant, hot, summer-like weather, this month proved changeable, showery, and squally, with preponderating northwesterly to southwesterly winds. The contrast, as regards temperature, between the beginning and close, was very striking—the mean temperature of the first seven days being 66.1° , while that of the last week was only 56.2° —a falling off of nearly 10° . In Dublin the rainfall, although distributed over as many as eighteen days, was by no means heavy; and there was a complete absence of thunderstorms.

In Dublin the mean temperature (61.0°) was very nearly the average (60.7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 60.6° . In the twenty-one years ending with 1885, July was coldest in 1879 (M. T. = 57.2°) and warmest in 1868 (M. T. = 63.5°). In 1885, the M. T. was 60.8° ; in the year 1883 it was 57.9° .

The mean height of the barometer was 29.873 inches, or 0.049 inch below the average value for July—namely, 29.922 inches. The mercury rose to 30.346 inches at 9 a.m. of the 3rd, and fell to 29.355 inches at 11 p.m. of the 13th. The observed range of atmospherical pressure was, therefore, 0.991 inches—that is, very slightly less than an inch. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 60.6° , or 3.8° above the value for June, 1886; that calculated by Kaemtz's formula—viz., $\text{min.} + (\text{max.} - \text{min.} \times .41) = \text{Mean Temp.}$ —from the means of the daily maxima and minima was 59.9° , or 0.3° above the average mean temperature for July, calculated in the same way, in the twenty years, 1865–84, inclusive (59.6°). The arithmetical mean of the maximal and minimal readings was 61.0° , compared with a twenty years' average of 60.7° . On the 3rd the thermometer in the screen rose to 78.7° —wind E.; on the 9th the temperature fell to 48.6° —wind N.N.W. The minimum on the grass was 42.0° on the same date. The rainfall was 1.722 inches, distributed over 18 days. The average rainfall for July in the twenty years, 1865–84, inclusive, was 2.499 inches, and the average number of rainy days was 17.6. The rainfall, therefore, was considerably below the average, while the rainy days were equal to it. In 1880 the rainfall in July was very large—6.087 inches on 24 days—and in 1871, 4.391 inches fell on as many as 28 days. On the other hand, in 1870, only .539 inch was measured on 8 days, and in 1868 only .741 inch fell on but 5 days.

A solar halo was seen on the 29th. The atmosphere was foggy on the 2nd. High winds were noted on as many as 10 days.

At the beginning of the month the distribution of atmospherical pressure over the British Isles and their neighbourhood was continuously anticyclonic, and the weather was bright with a high temperature. Even

in Dublin the maximal shade readings on the first five days were $75\cdot6^{\circ}$, $77\cdot5^{\circ}$, $78\cdot7^{\circ}$, $75\cdot6^{\circ}$, and $75\cdot7^{\circ}$, respectively; while in London the corresponding values were 73° , 79° , 83° , 86° , and 81° , the thermometer rising to 85° on the 6th and to 83° on the 7th, at a time when the weather had already become much cooler in Ireland. On Sunday, the 4th, the thermometer rose to 116° in the shade at Biskra in Algeria.

The hot dry weather which prevailed so generally until the 6th gave way gradually during the second week, the change beginning in the N. and W. It was caused by the transference of the high pressure area to a more southern position over France and Spain, and to the appearance in the north of cyclonic systems, which brought with them cloudy, showery conditions.

The weather of the week ending Saturday, July 17th, was very unsettled, with rain in all parts of the kingdom and a somewhat low temperature. The distribution of pressure was mainly cyclonic and the type westerly, the highest barometrical readings being found over France, the Bay of Biscay, or Spain. The centre of an important disturbance, in which the barometer was down to $29\cdot10$ inches, passed in an easterly direction across Scotland on the night of the 13th. As it came on, fresh S.W. gales were felt in many parts of Ireland and Scotland, and in its rear strong N.W. winds prevailed. Before it approached, a magnificent display of luminous cirri occurred on the evening of the 12th. The passage of this cyclonic system was accompanied with heavy rains—in Dublin, however, only $\cdot170$ inch fell in the two days.

In the course of the week ending the 24th, the weather was again changeable and showery, with prevailing S. and S.W. winds and varying temperature. A number of depressions and subsidiary disturbances passed north-eastwards across the United Kingdom. The most serious of these systems had its centre off the coasts of Sligo and Donegal on the morning of the 22nd, when the barometer was down to $29\cdot11$ inches at Mullaghmore, and gales or strong winds from southerly (S.E. to S.W. and W.) points were blowing in Ireland. Next day, diverse air currents in Dublin indicated that a subsidiary depression was passing eastward south of the city. This brought rainy weather to the south of England, the north of France, and Holland, early on the 24th.

During the last week (ending Saturday, the 31st), broken, showery, cold or chilly weather prevailed. On Sunday, the 25th, very electrical cirro-stratus passed over Dublin in an upper current from S. or S.W., while the lower clouds (cumuli) and the wind came from N.E. A thunderstorm seemed imminent, but did not occur. In England, however, towards evening, severe thunderstorms and torrents of rain were reported— $\cdot92$ inch being registered in London, $1\cdot4$ inches at Cambridge, $1\cdot81$ at Oxford, and $2\cdot20$ at York. As this thunderstorm depression travelled away, fresh cold northerly winds spread over the kingdom.

But other disturbances soon arrived from the Atlantic. At noon of the 29th a distinct solar halo was observed from Dublin, and later in the day drenching showers of rain fell locally. On the 31st several low-pressure areas amalgamated, forming a large depression, which travelled away towards Norway, leaving in its wake cold but fine weather.

PERISCOPE.

EXTRACT OF HEMLOCK IN INTRA-UTERINE INFLAMMATION AND PASSIVE HÆMORRHAGES.

DR. DAVID WARK, M.D., New York, writes as follows in the *New York Medical Times* :—"The advances attained during the last few years in gynecological therapeutics have been of a very encouraging character, and give promise of still greater triumphs in the near future. We have much pleasure in bringing to the notice of the profession a remedy by which curative results of an unusually brilliant character can be obtained in cases of uterine diseases that have hitherto been intractable. . . . We think it may be accepted as a self-evident truth that no remedies can be curative in the diseases under consideration which expend their power on the surface of the morbid membrane, while the deeper tissues are indirectly injured. Curative results can be attained only by the action of a remedy that favourably influences both the surface of the inflamed membrane and the deeper parts at the same time, by coming into intimate contact with the whole interior of the inflamed uterine follicles. The *extract of hemlock*, prepared by the Geddes' Manufacturing Company of Boston, Mass., fulfils the necessary conditions admirably. When placed in the interior of a diseased uterus, it saturates the inflamed membrane by filling every follicle, and thus exerts its healing influence on every part. It is not only an astringent of an unusual power, but, in addition, it seems to possess a peculiar tonic influence on the tissue whose treatment we are discussing. For this reason we believe it to be specially adapted to the successful treatment of chronic endometritis, in which caustic applications have so frequently proved destructive. We strongly recommend it to the confidence of gynecologists whose experience corroborates these views. Its application is nearly or quite painless, an advantage always highly appreciated by the patient. The extract may be applied in full strength to the uterine cavity by means of a probe, the end of which has been wound with absorbent cotton, or a few drops may be safely deposited there with a Molesworth intra-uterine syringe, or it may be dried until it attains the consistence of a soft pill mass; this done, a bit of the remedy, the size of a pea, may be passed within the os internum on the end of a uterine probe. Once in the cavity of the womb it soon dissolves and exerts its curative influence on every part of the diseased

membrane. Convincing proof of the efficacy of the treatment here advocated is afforded both to the physician and his patient by the improvement promptly experienced by the latter. The best results are secured by keeping the uterine mucous membrane under the influence of the remedy almost continually during a large part of the intermenstrual period. The applications should be repeated every second or third day. In cases of inflammatory disease of the mucous membrane lining the cervix, and in granular degeneration of the vaginal portion of the cervix itself, the use of the *extract of hemlock*, with such other local and general measures as will readily suggest themselves to every practical gynaecologist, yields much better results than can be obtained by any other remedy with which we are acquainted. The following cases will indicate the effects that may be confidently expected from the use of this valuable preparation of *hemlock* in passive uterine hæmorrhages:—Case I. A vigorous woman, forty-five years of age, who frequently boasted that she had never required the services of a physician except at the birth of her children, began to suffer from metrorrhagia as the menopause approached. We saw her on one of these occasions after the flow had continued copiously for about a week; at this time it had lost the appearance of menstrual fluid, and assumed that of thin, red blood. As the patient began to be anæmic, we applied the tampon daily during the next three days. The hæmorrhage was controlled as long as it was in position, but as soon as it was removed, the blood quickly reappeared, and did not cease until the inside of the uterus was swabbed out with the extract in full strength. Case II. A lady, aged thirty-five, the mother of two children, began to suffer from profuse menstruation, which gradually increased month after month until it became a metrorrhagia so copious that her life was saved on several occasions only by the diligent use of the tampon. This resource practically failed, as the hæmorrhage returned shortly after the tampon was removed. The bleeding was, however, controlled by the use of the extract applied in full strength freely to the bleeding surface. At the next menstrual period the normal discharge was again followed by copious hæmorrhage. We then examined the inside of the uterus, and discovered a small polypus, which we removed, with the result of obtaining a complete and lasting cure. This case forcibly illustrates the power of this *extract of hemlock* over passive uterine hæmorrhages. Case III. A married lady, twenty-six years of age, called me to attend her during a threatened abortion at the third month of pregnancy. She stated that this condition was brought about by herself, she having voluntarily taken some drug for that purpose. We found the loss of the ovum to be inevitable, and delivered her safely. The hæmorrhage was not severe, and ceased without the use of local measures, and she made a good recovery. Menstruation began in about forty days, but instead of ceasing at the usual time, it became a copious hæmorrhage.

We did not lose time by resorting to the tampon, but immediately applied this valuable astringent freely to the inside of the uterus, when the blood ceased to flow forthwith. In many cases of uterine hæmorrhage the advantages obtained by the use of this preparation over other remedies—the tampon included—are obvious. After the application of the latter, the hæmorrhage always continues from the bleeding surfaces until the uterus is filled with blood, which, when it has coagulated, opposes further hæmorrhage, if the blood does not unfortunately pass along the Fallopian tubes to the peritoneum. But when the loss of the vital fluid is checked by the use of the preparation here recommended, the blood ceases to flow immediately. The danger of producing a pelvic hæmatocele, and the annoyance to the patient of a tampon in the vagina, are both avoided, in addition to the lasting tonic influence in the treatment on the spongy mucous membrane.” The Extract of Hemlock may be obtained of the Geddes’ Manufacturing Company, College Chambers, 249 High Holborn, London, W.C.

THERAPEUTICS OF TRICHINOSIS.

THE value of glycerine in the treatment of trichinosis has been repeatedly alluded to. Fiedler noticed several years ago, in the preparation of microscopic specimens, that trichinæ and their embryos died at once when brought in contact with glycerine (even if diluted with two or three times its quantity of water). This was evidently the result of the hygroscopic power of glycerine, causing the abstraction of water from the parasites. This fact led Fiedler to treat animals, fed purposely with trichinous meat, with glycerine; but he did not obtain any positive results. Later he exhibited glycerine in several cases of trichinosis in man, and was successful. Mercel also published a case of trichinosis cured by glycerine, so that the profession regards this drug justly indicated in this affection. In the *Deutsches Archiv für klinische Medizin*, Vol. XXXVII., No. 12, Fiedler recommends the hourly administration of a tablespoonful of pure glycerine in trichinosis, though only in graver cases, as large doses of the drug may produce hæmoglobinuria and other toxic symptoms. In this instance the employment of Unna’s keratin pills, or keratin capsules, which dissolve only in the small intestines, would appear very appropriate. To complete the abstraction of water from the parasites, Fiedler advises to give large doses of alcohol and to prescribe a rigid dry diet. Glycerine may also be injected into the rectum. A powerful purge, though, is to precede all these therapeutic measures.—*Therapeutic Gazette*, June 15, 1886, and *Journal of the American Medical Association*, July 17, 1886.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. IX.—*Recent Progress in Intestinal Surgery.*^a By C. B. BALL, M.D., F.R.C.S.I.; President of the University Biological Association; Surgeon to Sir P. Dun's Hospital; University Examiner in Surgery, and Examiner in Surgery, R.C.S.I.

THE progress of modern surgery has been so rapid within the last few years that a mere recapitulation of the more important improvements would occupy more space than is at our disposal. I have, therefore, thought it better to confine my remarks to but one branch of the surgical art, and by so doing we may be enabled to gain an insight into the broad principles which have been chiefly instrumental in fostering this progress.

If we look back to the past history of surgery, we find that, although the progress has been constant, there have been certain epochs when the advances were more especially marked—and associated with these periods we find the names of the great masters of the art standing prominently forward. I have no doubt, when future historians come to review the progress of the present generation, this period will be found to have been one of the most important that the world has seen. As the science of surgery advances, and its scope enlarges, the number of workers who are adding their quota to the general store of knowledge increases largely, so that in all the branches of practice we may say that there is a steady advance along the whole line. Yet the

^a Being the Opening Address delivered before the University Biological Association. November, 1885.

one name which will in future be indelibly associated with this progress is that of Sir Joseph Lister. To him is due the credit of rendering practically useful the discoveries of Pasteur and others in support of the germ theory of putrefaction.

By means of carefully-employed antiseptic precautions, we can now perform operations on important organs, bones, joints, and the great serous cavities, which, fifteen years ago, would have been considered absolutely unjustifiable. And by antiseptic precautions I would distinctly state that I do not imply alone the rigid adherence to the special details of any one form of dressing, but the general precautions which are engendered by the knowledge that profuse suppuration, erysipelas, septicæmia, &c.—those scourges of surgical practice—are the direct result of inoculation at the time of operation, or subsequently, while the wound is open, of germs capable of generating these conditions; and that these germs can be destroyed by several chemical agents. Consequently, we must insure that the sponges, instruments, fingers of the operator, and all else which touches the wound, must be so purified that any existing germs shall have been destroyed, and that after the operation the dressings which are applied are not alone in themselves pure, but are capable of disinfecting the fluids which drain into them. These ends may be arrived at in a variety of ways, but the principle is the same, and it is at the root of modern surgical success.

Another important aid to the antiseptic treatment is the avoidance of cavities in a wound in which serum or blood might collect. This is to be accomplished preferably by the application of deep sutures, and, where necessary, drainage tubes. When dealing with the large serous cavities, where these means are not applicable, extreme care in arresting bleeding, and subsequent cleansing, answer a like purpose.

The subject, however, upon which I desire more particularly to address you is the surgery of the intestinal tube, which is now a very much more comprehensive subject than it was a few years ago. It is only a very short time since I was a student, yet at that time my teachers were constantly impressing upon their classes the terrible dangers of opening the peritoneal cavity, and they put off this operation in cases apparently requiring it until the patient was nearly dead, and then when death supervened it was attributed to the dreadful peritoneum, when possibly it might, with more justice, have been assigned to delay upon the part of

the surgeon. Indeed, in cases of intestinal obstruction, unless due to an easily recognised strangulated external hernia, the patient was placed upon a course of medical treatment which too often was absolutely futile, if not positively injurious.

To the ovariologists in particular we are indebted for showing that, if proper precautions are taken, the peritoneal cavity can be opened and explored without any grave danger. It is, however, quite possible that the obstruction, when found, may be of such a nature that the further operation for its relief may be, and often is, one of a very formidable nature, and the result frequently fatal. But this is not an argument against the procedure; for, on the other hand, *post-mortem* examination has frequently shown that the obstruction is by a band, by a diverticulum or vermiform appendix, which could have been, with facility, divided, and the patient in all probability saved, had abdominal section been performed in time; and there is a fast-accumulating list of lives which have been saved by timely surgical interference in intestinal obstruction. It will much facilitate the consideration of this subject if we classify the causes of internal obstruction into the acute and chronic, the former including all those cases in which the physiological function of the intestine is suddenly stopped, and which usually present in addition some of the symptoms indicating that interference with the blood supply of the part which we understand by the term strangulation. The chronic varieties are those in which, from gradual narrowing of the lumen of the intestine, or other causes, the onward flow of fæces is first retarded, and finally completely arrested without any grave alteration taking place in the blood supply. Bryant has shown very forcibly the importance of making this practical division, as the symptoms characterising the acute strangulation are more severe and pronounced, and the demand for active relief is very much more urgent, for we must remember that it is not alone the obstruction that calls for our aid, but the vitality of the bowel is itself threatened, and unless the strangulation is quickly relieved gangrene of the intestine is apt to occur. That the urgency of the symptoms is due to the strangulation and not to the obstruction, is proved by the fact that after the ordinary operation for the relief of strangulated hernia, the bowels may not move for many days, yet the vomiting and other severe symptoms will at once cease.

The diagnosis of acute intestinal obstruction is sometimes a matter of no little difficulty, and it may be quite impossible to

accurately determine both the site and nature of the lesion. The symptoms which, however, generally characterise acute intestinal obstruction are briefly as follow :—Severe abdominal pain, collapse, constipation, and vomiting, which is copious and severe, first of the contents of the stomach and afterwards of the intestine. Associated with these there is frequently great thirst, and diminished secretion of urine. The abdomen will be distended, and peristaltic movement may be visible through its walls. When the obstruction is due to intussusception, there may be, in addition to the symptoms detailed, a discharge of blood and mucus, and the presence of a tumour to be recognised either by the rectum or through the abdominal wall. When we are called to such a case we should first examine all the usual hernial openings, and explore the rectum. If nothing be found, a full hypodermic injection of morphia should be administered to quiet peristalsis and allay vomiting. A large enema is then to be carefully administered with a long tube, or the intestine insufflated with air by means of Mr. Lund's instrument. Great care is, however, necessary in the adoption of these plans of treatment, Mr. Bryant having recorded a case in which, at *post-mortem* examination, it was found that the peritoneal coat of the intestine had been in several places cracked by hyperdistension in the ineffectual attempt to reduce an internal strangulation. Associated with this treatment, a trial may be made of careful and systematic manipulation of the abdomen, called by Mr. Hutchinson abdominal taxis, and if none of these measures are attended with success, no further valuable time should be lost, but abdominal section at once resorted to. Now it is frequently a matter of extreme difficulty to find where the obstruction is, and it is therefore of the first importance to search systematically. The middle line should be selected, and a tolerably long incision made, care being taken to stop all bleeding in the abdominal wall. Our first attention should be directed to the cæcum, which, from its position and characteristic appearance, can readily be recognised. We now determine whether it is dilated or contracted. If the former, the site of obstruction will usually be found in the large intestine ; but if the cæcum is found contracted, the probability is strong that some part of the small bowel is implicated. The search must now be carried on until the strangulation is found, and in doing this it may sometimes be a matter of difficulty to determine at first sight which is the upper and which is the lower end of a loop of small intestine. In order to do this it is,

however, only necessary to pass the finger down along the mesentery to its attachment, and if we find that this is not twisted the direction of the bowel can readily be determined. When the seat of strangulation is reached, its nature is to be ascertained, and if we find intussusception, internal hernia, strangulation by bands or volvulus, the obvious treatment will be to relieve the constriction, and if the bowel still retains its vitality, the operation may be completed by cleansing the peritoneal cavity and closing the opening. But if we find an irreducible intussusception, gangrenous bowel, or a stricture which has become acutely obstructed, the diseased portion must be resected and the divided ends closely sutured, or both ends may be brought out at the wound, trusting to a future operation to close the artificial anus so produced. It will not answer to follow the recommendation formerly given, and simply open the intestine above the constriction, and so form an artificial anus, as by so doing we leave behind in the abdominal cavity a strangulated portion, which, if it become gangrenous, will assuredly set up severe and probably fatal inflammation, and even should the patient survive this danger, we can have no hope of eventually closing the preternatural opening, and if this is situated high up in the small intestine slow death from starvation would inevitably follow. Mr. Greig Smith, dissatisfied with his want of success in finding the position of the constriction by the method detailed, has suggested recently some improvements which, I am convinced, are based upon sound surgical principles. He allows the dilated intestine to protrude from the abdominal wound, protected by aseptic sponges wrung out of hot water, and then searches about for the most inflamed portion, which, he points out, will be a sure guide to the obstruction; and after it is relieved he evacuates the gas distending the gut above the constriction by making an incision into it. A simple puncture is not sufficient for this purpose, as can be readily demonstrated *post mortem*. The contents having been evacuated by careful manipulation, the wound in the intestine is to be carefully closed by sutures, the peritoneum sponged out, and the abdominal opening closed. The object of this procedure is to give the hyper-distended bowel an opportunity of recovering its lost power. It is well known that a condition of paralysis of the involuntary muscular fibres is produced by prolonged distension. An example familiar to all surgeons is to be found in the case of atony of the bladder, the result of hyper-distension of that viscus. And the same thing occurs in the intestinal tube. It would appear that the evacuation

of the dilated intestine is as important a plan of treatment as the passing a catheter in atony of the bladder. I have spoken of the application of sutures to intestinal wounds, either for the closure of an opening such as we have just been considering, or for the purpose of joining the divided ends of the tube after an intestinal resection. As minute attention to detail is here necessary, and as there has been expended a considerable amount of ingenuity upon this subject, we may well pause to consider briefly the application of sutures involving peritoneal surfaces in general. The method of healing which is to be found in peritoneal wounds differs in a marked manner from what we observe in skin and mucous membrane. If either of the latter structures is inverted by the sutures, we know that no adhesion ever takes place between the epithelial surfaces so opposed, and the greatest caution is exercised by the surgeon to prevent this inversion in the treatment of the ordinary surgical wounds met with. In wounds of the peritoneum, however, this membrane, in common with the other endothelial surfaces, throws out with the greatest readiness adhesive lymph, so that if two surfaces of the membrane are opposed, they are quickly glued together. So rapid is this process that wounds of the intestine, when carefully brought together with inversion of the peritoneal coat, are completely sealed over in a few hours; this lymph covers in the sutures altogether, so that they tend to cut through towards the mucous rather than the peritoneal surface, and thus fæcal extravasation is avoided. It is obviously, then, a matter of great importance to find out the form of suture which will best effect a complete closure, as much of the success of these operations which involve the opening of the intestine depends on whether the stitching has been sufficient to prevent fæcal extravasation.

The continued suture or glover's stitch, which it is sometimes called, was until recently that which was usually employed in intestinal wounds, but it has now almost quite fallen into disuse for the following reasons:—In the first place, it does not sufficiently invert and oppose the peritoneal surfaces; when one pair gives, the whole length is more or less loosened, and, should an end get free into the intestine before the whole suture was ready to cut through, undue traction on the wound might be produced. The methods of suture now usually employed are those of Czerny, Lembert, and Gussenbauer.

The form of the needle should be that of a semicircle, and it is

better not to have the point lance-shaped, or edged, as is common with ordinary surgical needles, but to have it formed round like that of a common sewing needle, and they should be as fine as possible, so that no danger of extravasation at the punctures need be anticipated. Very fine silk, rendered aseptic, should be the material used for the sutures; when they have fulfilled their purpose they will be cast off into the lumen of the bowel, so that no fear of their acting as foreign bodies and setting up undue irritation need be entertained; they must be applied very closely, so that no escape of contents can take place in the intervals between them; as many as 60 have been used in a case of intestinal resection.

More difficult cases to deal with are those which come under the category of chronic intestinal obstruction. They are of slower development and less urgency of distress than those we have been considering, hence the indications for surgical interference are not so pronounced, and we have more time for deliberation. The obstruction may be found in various parts of the intestinal tube, and different plans of treatment are applicable to these various situations. When Billroth recorded his first cases in which he had excised the pylorus, and stitched the truncated stomach to the duodenum successfully, a profound sensation was produced in the surgical world, and soon there were numerous imitators, but it is, I think, quite open to doubt whether this operation is ever likely to become very popular when performed for malignant disease, as by the time that the symptoms are sufficiently pronounced to render the diagnosis certain, such implication of the lymphatic glands in the neighbourhood has taken place that recurrence is sure not to be long delayed, and the operation, even in the master-hands of Billroth, is one of extreme immediate danger; but the stricture of the pylorus may occur from other causes than malignant disease, either cicatricial or resulting from chronic inflammation, and it then may be treated by digital dilatation, as recommended by Professor Loreta, of Bologna. The diagnosis of pyloric obstruction is, therefore, a point of extreme interest. When the contents of the stomach cannot pass on into the duodenum, dilatation of the stomach takes place, and copious vomiting is the result. Various methods have been adopted for estimating the amount of dilatation—such as percussion, after drinking a large quantity of fluid or after the stomach is distended with gas by effervescing powders, feeling the point of the stomach pump tube through the abdominal wall, &c.,

but, as dilatation may be due to other causes than mechanical obstruction at the pylorus, Professor Loreta places more reliance on an examination of the vomited matter in forming the diagnosis. Where the case is one of simple or cicatricial stricture of the pyloric orifice, the stomach retains its power of digesting food; nausea and pyrosis will be absent; and the vomited matter will be normally acid, and will deposit at the bottom of a vessel a layer of well-elaborated chyme, and immediately after the stomach is emptied by vomiting the patient will have appetite for food; whereas, if the symptoms are due to structural changes in the stomach itself, there will be pain after meals, vomiting of undigested food, bad appetite, pyrosis, and the usual train of symptoms found in chronic gastric catarrh. Malignant stricture may be diagnosticated by the greater rapidity of its course and the cachexia which is produced, possibly also by the presence of a tumour which can be felt in the region of the pylorus, and coffee-ground vomiting. Professor Loreta's operation consists in making an incision into the stomach, and then with the fingers forcibly dilating the constricted pylorus, and he states that in two cases in which he practised this operation the result was completely successful; the stomach wound is, of course, to be carefully closed by suture.

There is yet another operation which has been suggested for the relief of pyloric obstruction, and that is to make an opening in the stomach and also in the duodenum or jejunum; these openings are then to be carefully sutured together, and so establishing a new route for the passage of the food, thus leaving the pylorus at complete and final rest. This operation would appear to be less formidable than complete ablation, and might be practised where the latter from the extent of the disease was impracticable, but it, as yet, wants the test of extended practical experience. In the rest of the small intestine chronic obstruction may be met with at any point, and the treatment to be adopted differs but little from that which is recommended for the other parts of the tube, with this one exception—it has been suggested where a very considerable portion of the gut is involved, so that ablation is impracticable, to divide the intestine above the obstruction, close the lower opening, and connect the upper with an aperture artificially made in the cæcum, thus, as in the case of the pylorus already mentioned, providing an alternative route for the fæces. At the ileo-cæcal valve, intussusception is the most common cause of obstruction, and the symptoms of this condition may be as acute as of strangulation

from any of the other causes mentioned, or it may be chronic, the symptoms of obstruction only being noticeable, and these slowly developed. If not reducible by simple means, abdominal section should be undertaken and an attempt made at reduction ; in doing this it is found easier to press out the invagination from below than to draw it out from above. If found irreducible either from adhesion between the layers of serous membrane or inflammatory swelling of the intussusception, resection is the proper treatment, with the temporary establishment of an artificial anus. Colotomy for the formation of an artificial anus in cases of obstruction of the large intestine has been frequently employed, and the operation at present usually practised by most surgeons is the opening of the descending or occasionally of the ascending colon from the loin, where it is uncovered by peritoneum. Almost the only cases, until quite recently, in which the peritoneum was opened intentionally for the purpose of reaching the large intestine were those in which Lillie's operation has been performed for congenital malformation of the rectum, being selected in preference to the lumbar incision in these cases in consequence of the very great difficulty of finding the colon in young infants by the latter operation. It would, however, appear that it is quite open to discussion whether, in the great majority of cases, laparo-colotomy is not the preferable operation, for, on the one hand, the wound for lumbar colotomy is deep and the intestine is frequently difficult to find, accidental wound of the peritoneum being a not uncommon complication of the search. Even in the hands of skilled operators mistakes have been frequent, such as opening the duodenum or failing to find the colon altogether. Owing to the depth of the incision, extravasation of fæces into the areolar planes, and subsequent diffuse suppuration, is not uncommon ; and, again, the opening being only on one side of the bowel, part of the fæcal mass passes the artificial anus and causes considerable irritation in cases of rectal cancer, for which this operation is most frequently done, and the accumulation of fæces in that part of the tube between the opening and obstruction gives rise to continued efforts at expulsion, resulting often in prolapse of the bowel through the preternatural opening. Bryant has put on record a very interesting case in which this accumulation below the opening gave rise to vomiting and other symptoms of intestinal obstruction, although the artificial anus was quite open and free. But the most serious objection is, that in cases of obstruction in which the site of disease could not be accurately located prior to

operation, it has been found that the colotomy has been performed below instead of above the constriction.

Now, when the peritoneal operation is chosen, the site of the disease can be readily investigated; if suitable, the more radical procedure of colectomy may be undertaken—an operation which has now been performed a number of times with a comparatively low rate of mortality. If, on the other hand, the disease is found very extensive and unsuitable for extirpation, the suggestion of Madelung can be carried out and the colon completely divided across; the upper end is to be stitched to the skin, and the lower segment of bowel emptied and then carefully sutured up, thus cutting off for ever all access of fæces to the site of disease, and, as there is no place for an accumulation below, straining which tends to the production of prolapse is avoided. The position of the artificial anus in the front of the abdomen is very much more convenient and easily attended to by the patient than when it is situated in the lumbar region. Upwards of a year ago I performed this operation upon an old woman who was dying of obstruction from cancer high up in the rectum. When the abdomen was opened it was found that the disease was too extensive for removal, consequently I divided the colon completely across; the upper portion was stitched to the wound, and the lower closed by suture. I recently heard that this patient was still alive; she has never had any prolapse, and she has control over her motions and is able to attend to herself. There would be no question that laparo-colotomy would be the best operation were it not for the necessary wounding of the peritoneum, but this danger is minimised by modern wound treatment, and in cases where there is no great urgency a loop of colon can be drawn out and allowed to become adherent before it opened, thus obviating all danger of fæcal extravasation into the abdominal cavity.

ART. X.—*Notes on Famine Diseases.* By ALEXANDER PORTER, M.D., F.R.C.S.I., M.R.I.A.; Surgeon-Major I.M.S.; Fellow of Madras University; and Professor of Medical Jurisprudence, Madras Medical College.

(Continued from Vol. LXXX., p. 376.)

II. ALVINE FLUX WITH ULCERATION OF GUT.

THE second division comprises all cases of bowel complaint with ulceration of the gut only and without diphtheritic effusion. These number 132, or nearly two-fifths of the whole. The following figures show the women to contribute about ten per cent. more than the men or children:—

			Total.	Per cent.
Men	-	59	166	35·5
Women	-	52	119	43·7
Children	-	21	62	33·5
		132	347	38·0

Disease complained of. The disease complained of on admission was dysentery in 35 (or about two-thirds) of the men, in 23 (or about two-fifths) of the women, and in 7 (or one-third) of the children. In the remainder, where diarrhœa was not the disease actually complained of, it was found to be present on examination, and it continued to the end.

Duration of illness. Two men died on the day of admission, having been ill some ten days. The average stay in hospital was $13\frac{1}{4}$ days, the average duration of sickness before admission being 16 days; one man was as long as two months in hospital, and one said he had been three months ill on admission.

Two women died on the day of admission after a week's illness. The average stay in hospital was $15\frac{1}{4}$ days, the average duration of illness before admission being $13\frac{1}{2}$ days. One woman was as long as 101 days in hospital, and one had been two months ill before admission, she stated.

The children were in hospital $10\frac{1}{4}$ days on an average, and had been ill twelve on admission. One was five weeks in hospital, and one had been ill two months on admission, the mother said.

Character of stools.

The character of the stools varied a good deal, even in the same case, from day to day. The following is an analysis of the cases noted :—

			Diarrhœa.	Dysentery.
Half-formed fæces	-		1	3 ^a
Thin feculence	-	-	11 ^b	4 ^c
Bloody fluid	-	-	1	5 ^d
Melæna	-	-	0	1
Brown fluid	-	-	3 ^e	1
Slimy greenish pult	-		1	5
Mud-coloured fluid	-		4	4 ^f
Ochrey yellow fluid	-		4 ^g	13 ^h
Green fluid	-	-	2	5 ⁱ
Scybala	-	-	1	1
White fluid	-	-	2	2 ^j
Do. with sloughs			2	0
White shreds in serum	-		6	3

Contents of Small Intestine.

The small intestine was empty in twenty cases of diarrhœa and in twenty of dysentery; 34 were adults and 6 were children, being about a third of either.

The contents noted were as follows :—

			Diarrhœa.	Dysentery.
Half-digested food	-		2	1
Mud-coloured fluid	-		13	7
Whitish fluid	-	-	3	3
Rice-water fluid	-	-	1	1
Ochrey-yellow fluid	-		15	12
Lumbrici	-	-	30	37
Green fluid	-	-	2 ^k	10
Green pult	-	-	4	6 ^l
Red fluid	-	-	6 ^m	2
Slatey fluid	-	-	1 ⁿ	2
Gas-distended	-	-	8	2

Lumbrici to the number of 269 were found in 31 women, giving an average of $8\frac{3}{4}$ each, and of 115 in 24 men, being an average of $4\frac{3}{4}$ each; as many as 63 were found in one woman, not counting

^a Slimy. ^b Two frothy. ^c One frothy. ^d Mucus in two. ^e One foetid. ^f One frothy. ^g One oily looking. ^h Two oily looking, seven slimy. ⁱ Three slimy. ^j One frothy.

^k One oily looking. ^l Two slimy. ^m One has green flocculi. ⁿ Pultaceous.

three in the stomach. In 12 children 41 were found, being an average of $3\frac{1}{2}$ each; 16 was the largest number found in one child. Cases of distension of the gut with gas were all children except two.

The large intestine was empty in the majority of cases—viz., in about seven-eighths of the adults and in four-fifths of the children. In four children and in one adult it was greatly distended with gas. The contents found may be grouped as follows:—

			Diarrhœa.	Dysentery.
Thin pale feculence	-		4	2
Half-formed fæces	-		0	1
Scybala	-	-	2	1
Ochrey fluid	-	-	2	1
Blood and sloughs	-		1	1
Red fluid	-	-	1	1
Brown stinking fluid	-		1	1
Gas	-	-	4	1
Dark green fluid	-	-	1	0

The walls of the small intestine generally were thin. In one there was a diverticulum an inch long by two lines wide, situated in the ileum about three feet above the valve. There was a smaller diverticulum in one at the upper end of the ileum, and in another about its middle.

The gut was very wide in one case, and so narrow in another for six inches at the middle of the ileum as hardly to admit the blade of the scissors. The appearances found may be grouped as follows:—

			Diarrhœa.	Dysentery.
Healthy-looking	-		2	2
Injected all through	-	-	3	2
Do. in lengths	-	-	2	3
Injection confined to jejunum			3	1
Injection confined to ileum	-		5	7
Rose-coloured to white	-		30	24
Pale and œdematous	-	-	5	5
Pigmentation	-	-	15	19
Submucous ecchymosis	-		8	9
Ulceration	-	-	5	2
Cicatrices	-	-	2	2

Peyer's patches presented the "shaven beard" appearance in two cases of diarrhœa and two of dysentery, were infarcted by tubercle in one of diarrhœa and one of dysentery, swollen and livid in one of diarrhœa, red injected in two of diarrhœa, with ecchymotic-like puncta in a third, buff and prominent in one case of diarrhœa, two lowest patches abraded in one and ulcerated in another case of diarrhœa.

The solitary glands were pale and prominent in two cases of diarrhœa, and were infarcted with tubercle in two cases of dysentery, supervening on chronic phthisis; and in one case of dysentery in chronic pneumonia there were two glands in the jejunum distended with glairy fluid to the size of peas—one of them also contained a concretion.

Injection of the mucous coat to a greater or less extent was found as above shown, in 13 cases each of diarrhœa and dysentery, or in about 20 per cent. of the total. Speaking generally the lesion was mostly in the jejunum in the diarrhœa and in the ileum in the dysentery cases; there was no thickening present.

Where the injection extended the whole length of the gut—in the three cases of diarrhœa it was a deep livid red, being deeper livid in lower six feet, as in cholera, in one; a reddish pink, as in active digestion, being a deeper red in six-inch lengths in one; and a peculiar dusky livid, as in passive congestion, in the third; in the two dysentery cases it was a bright red, being deep claret in the valvulæ conniventes and in parts in one, and a dusky livid, with claret-coloured congestion in parts of ileum, in the second.

Where the injection was in lengths—in one case of diarrhœa it was livid, and in the other livid red with red mottles, probably from the large number of lumbrici present; in the three cases of dysentery the congestion was deep livid.

Where the injection was confined to the jejunum—in three cases of diarrhœa it was livid all through in one, reddish with lividity in lengths in one, with lividity of some valvulæ conniventes only in the third; in the case of dysentery it was reddish in places, probably from the 30 lumbrici present.

Where the injection was confined to the ileum—in the five diarrhœa cases it was livid in lengths in two,

both children; dark livid in lengths, with injection of subperitoneal veins, in one, livid in places towards the valve in one, and streaky arborescence of lowest foot in the fifth. In the seven dysentery cases the injection was livid arborescent in lengths in two, reddish livid of spots and parts in two, livid in lengths in one, deep livid of lowest two feet in one, and purple livid of a piece four feet above valve, having four abraded irregularly-shaped spots on surface—one a little thick in the seventh.

Anæmia. Among the cases of pallor of the intestine there were five cases of diarrhœa and four of dysentery in which the coats were thin and quite milk-white, seven of these were children; in five of diarrhœa and three of dysentery the mucous membrane was pale, in fifteen of diarrhœa and fourteen of dysentery it was pale-rose to dull-white, and in five of diarrhœa and three of dysentery it was rose-coloured.

Edema. Where the mucous coat was œdematous, the œdema was confined to the valvulæ conniventes in two cases of diarrhœa and two of dysentery, and it was slight and confined to the jejunum in one case of diarrhœa and one of dysentery, and to the lower end of the ileum in one case of diarrhœa; and in one of dysentery it consisted of white mottles in the ileum from effusion of serum beneath the mucous membrane. In the remaining case of diarrhœa and of dysentery the œdema was considerable all through, but most marked in the jejunum.

Pigmentation. Pigmentation was found only in adults, was general, giving the mucous coat a more or less deep-slatey coloration, and was usually most marked in the jejunum in 12 cases of diarrhœa and 17 of dysentery; it was confined to cicatrices in one case of diarrhœa and one of dysentery, to some valvulæ conniventes in one of diarrhœa, to old spots of submucous ecchymosis in one of diarrhœa, and to Peyer's patches in one case of dysentery.

Ecchymosis. Ecchymosis, beneath or into the mucous coat, was found in six, or nearly one-third of the children, and in eleven adults. In the former the effusion was submucous, and consisted of a few small flat circular spots in the jejunum in one case of diarrhœa and one of dysentery; and of similar spots in the ileum in one case of diarrhœa and one of dysentery. In one case of diarrhœa the spots were circular, prominent, punctated in the centre, small, from the size of a flea-bite to two lines in diameter, and numerous at the middle of the

gut, about four to the square inch, but fewer towards the ends where they finally disappear; and in another case there were four spots in the jejunum, the upper one red and flat, the next venous, rounded, and punctated in the centre, and the lowest

Adults. two flat and brown. Among adults there was superficial purple effusion into the lowest Peyer's patch in one case of diarrhœa and numerous similar blotches into the mucous membrane in a case of dysentery. There were a few, one to six, small circular flat spots of submucous ecchymosis in the jejunum in two cases of diarrhœa and in two of dysentery: a large flat blotch near the middle of the gut in one case of diarrhœa and one of dysentery; a dozen small circular flat spots, one prominent, in a case of dysentery; eight prominent circular spots, the size of a florin, in the jejunum, and a number of small spots in the ileum, in a case of dysentery; and numerous flat circular livid spots, an inch in diameter, and many small red and livid spots in another dysentery case.

Ulcers. There was tubercular ulceration of one to four Peyer's patches near the valve in three cases of diarrhœa and two of dysentery supervening on latent phthisis. There was purplish punctated injection, with abrasion of the lowest two Peyer's patches, without thickening, in a young man who died after eleven days' treatment in hospital for diarrhœa with slight lobar pneumonia; and in the case of a middle-aged woman, who had been in hospital three weeks with simple diarrhœa, three Peyer's patches in the jejunum and a number in the ileum were found surrounded by purulent infiltration, the glands being distended with pus; some had burst, leaving circular ulcer-like depressions with no infiltration around; there was no injection present.

Cicatrices. In one of the above cases of tubercular ulceration cicatrices were found in two Peyer's patches; and in an old woman who had been in hospital four weeks with simple diarrhœa, cicatrices binding the mucous to the muscular coat were found extending from the valve upwards for four inches, as well as in the colon also. In a man who had been ten days in hospital with dysentery there was found, six inches above the valve, a blackish cicatrix, irregularly oval transversely, an inch long by three lines wide, and adherent to the middle coat; and in a woman who died from dysentery when two days in hospital, there was found a pigmented cicatrix in one Peyer's patch; there was extensive ulceration of the colon in both cases.

The Large Intestine.

The large intestine was large and sacculated in one case. There was more or less injection of the mucous coat in 21 cases of diarrhœa and in 22 of dysentery, or in 38, or about one-third of the adults, and 5, or nearly one-fourth of the children.

			Diarrhœa.	Dysentery.
Hyperæmia	-	-	5	9
Do.	local	-	16	13

Hyperæmia.

Where the whole length of the gut was implicated the injection was less marked in the lower end in all cases of diarrhœa except one. It was purple-red to livid, with little or no thickening or swelling in three cases of diarrhœa, one a child, and five of dysentery, pink-red in two of diarrhœa and two of dysentery, and a dirty pale-pink, or livid, in two of dysentery.

The congestion was confined to the upper end in five cases of diarrhœa, two of them children, and four of dysentery, and was of the following characters :—

				Diarrhœa.	Dysentery.
Livid	-	-	-	2	4
Dull-pink	-	-	-	2	0
Red	-	-	-	1	0

It was confined to the lower end in six cases of diarrhœa—one a child—and three of dysentery, and was deep livid-red in all except the child and another case of diarrhœa, in which the injection was only slightly livid; and in one case of dysentery in which there were only pink rugæ in the descending colon downwards. It was found in both ends in two cases of diarrhœa and one of dysentery, and was livid in all, except that in one case the rectum was pink; in the case of dysentery there had been bleeding from the rectum.

The congestion was in blotches or patches, which were red to livid in two cases of diarrhœa and four of dysentery, and merely mottles on a rosy mucous membrane in one case of diarrhœa and one of dysentery, the latter a child.

Swelling. The mucous membrane was swollen in three cases of diarrhœa—one a child—and two of dysentery, was slightly thickened in two of diarrhœa and seven of dysentery, was thickened in the upper end in one of dysentery, was thickened in the lower end in five of diarrhœa—one a child—and in five of dysentery, and in both ends in one of diarrhœa and one of dysentery. The thickening

Thickening.

was in rugæ in two cases of diarrhœa—one a child—and in two cases of dysentery it was great for the whole length of the gut. *Edema.* *Edema* was present in two cases of diarrhœa—one a child—and in two of dysentery; the adults are already included above.

The coats were thinned, or at most there was no appreciable thickening in 26 cases of diarrhœa and 15 of dysentery, as given below, or in 32, or about three-tenths of the adults, and in 9, or three-sevenths of the children:—

				Diarrhœa.	Dysentery.
	Hyperæmia	-	-	7	4
<i>Anæmia.</i>	Anæmia	-	-	19	11
				<hr/> 26	<hr/> 15

There was some swelling of the mucous coat in three cases of diarrhœa—two of them children—and in one of dysentery; there was thickening in the upper end of the gut in one case of dysentery and in the lower end in five cases of diarrhœa—two of them children—and in six of dysentery. There was thickening in wheals or patches in four cases of diarrhœa and two of dysentery—one a child. There was hypertrophy all through of all the coats, which often attained a very considerable thickness, in nine cases of diarrhœa and in nineteen of dysentery—two of them children; and there was œdema of the mucous coat in six cases of diarrhœa—one a child—and in three of dysentery.

In one case of diarrhœa in latent phthisis there were tubercular ulcers in the ileum, but none in the large gut, only livid congestion in its lower half; and in another there were many tubercular girdle ulcers in the lower part of the colon, with black scars lower down. In one case of dysentery in the upper half of the gut the mucous coat was injected bright-red, and was studded with large, thick, yellow-based cancrioid-like ulcers, and in the lower half it was rosy, with warty fungoid ridges in the rectum, like epithelial cancer in appearance and structure.

In the other cases the lesions may be classed as follows:—

				Diarrhœa.	Dysentery.
<i>Abrasion.</i>	Abrasion	-	-	1	4
	Circular ulcers	-	-	31	17
	Oval or irregular ulcers	-	-	7	10
	Do., chronic and cicatrising			6	11
	Sloughing	-	-	20	22

In three of the cases of dysentery with abrasions there was congestion, but little thickening of the mucous coat, and in the fourth there was no congestion, but erosions of thickened rugæ. In the case of diarrhœa there was no thickening, but congestion in spots which were abraded. The circular ulcers were usually small, a line or so in diameter, and often unaccompanied by thickening or congestion, and were usually more or less sparsely studded over the whole surface or confined to the lower end. They appeared mainly to originate in ulceration, or even tiny sloughs of the mouths of the mucous follicles; but instances of their beginning in the solitary glands, as well as in spots of submucous ecchymosis, were also observed.

Ulcers of this sort were the chief characteristic in 35, or nearly one-third of the adults, and in 13, or nearly two-thirds of the children.

				Diarrhœa.	Dysentery.
Adults	-	-	-	21	14
Children	-	-	-	10	3

There was no thickening of the mucous or other intestinal coats in 23, or nearly one-half these cases, 7 being children, and there was no injection present in 33 cases, of whom exactly one-third were children, 24 were cases of diarrhœa, and 9 were cases of dysentery, as shown in the following table:—

		Thickened.		Not Thickened.	
		Diarrhœa.	Dysentery.	Diarrhœa.	Dysentery.
Pale	-	11	4	13	5
Congested		5	5	3	2

The ulcers were confined to the upper end in two, to the lower end in 20, and were all through the length of the gut in 26 cases. In two cases of dysentery with congestion, and in four cases of diarrhœa, the ulcers, by sloughing or extension, had lost their peculiar characters at the lower end of the gut.

There was thickening with congestion or otherwise, as noted below, and oval or irregularly-shaped ulcers, occupying sometimes as much as one-half to three-fourths the total surface, in 10 cases of dysentery—two of them children—and in seven of diarrhœa—one a child. The ulceration was less extensive in the diarrhœa cases, and was noted absent from the lower end of the gut in the worst case.

				Diarrhœa.	Dysentery.
	Congested	-	-	4	5
	Anæmic	-	-	3	5

There were chronic ulcers, often cicatrices also, usually with little thickening or congestion, and mostly confined to the lower end of the gut, in 9 cases of dysentery and in 4 of diarrhœa, three of them children. There was no thickening or injection, only some healed and a few unhealed cicatrices, in one case of diarrhœa and in two of dysentery; and in one case of diarrhœa there was a chronic ulcer extending along the free border of the transverse colon for nearly its whole length; there was some congestion present in this case, but no thickening.

				Diarrhœa.	Dysentery.
	Congested	-	-	3	2
	Anæmic	-	-	1	7

There was sloughing, with usually much hypertrophy of the coats or œdema, and mostly no injection, in 20 cases of diarrhœa and in 22 of dysentery, two of these children.

		Thickened.		Not Thickened.	
		Diarrhœa.	Dysentery.	Diarrhœa.	Dysentery.
	Congested	2	2	1	1
	Anæmic	- 16	18	1	1

In many cases the whole mucous tract was one mass of slough, but in only two cases had perforation with effusion of the contents of the gut into the peritoneal cavity actually occurred. One of these was a little girl in whom there was no appreciable thickening of the gut, and only a few congested patches occupied by sloughy ulcers in the transverse colon; one had perforated and killed the child apparently by the shock, for no peritonitis was present. She had been in hospital only two days with dysentery, which was said to have set in three days before admission. The other was the case of a man who had been in hospital nine days with diarrhœa, in which there were sloughs in the transverse colon, one perforating; the lower part of the gut was noted almost healthy looking. However, in seven other cases of dysentery and six of diarrhœa perforation had all but occurred—in fact, it was completed by removing the intestines in three cases of dysentery—and in two other cases of dysentery and one of diarrhœa, peritonitis with lymph and purulent effusion had been set up; in the remaining two cases of dysentery and in

three of diarrhœa adhesive peritonitis was found gluing the surface generally of the transverse colon to the omentum or parietes. In one of these there was no thickening or injection, the sloughing being due to the effusion of pus beneath the mucous coat in pyæmia from chronic suppurative pneumonia. In the two remaining cases of diarrhœa the perforation occurred in the cæcum in handling.

Spots of submucous ecchymosis were found in three

Ecchymosis. cases of diarrhœa and in one of dysentery. *Pigmentation.* Pigmentation of the mucous coat, giving it a more or less deep-slatey coloration, was found in 20 cases, and it was confined to cicatrices, ulcers, mouths of follicles, or mottles, in 40 other cases, as noted below, nine in all appearing under two heads—

	General.	Cicatrices.	Ulcers.	Follicles.	Mottles.
Diarrhœa	10	11	5	2	2
Dysentery	10	6	11	3	2

Cicatrices were found in 11 cases of diarrhœa, three of them children, and in six of dysentery. These were confined to the upper end of the gut in three cases of diarrhœa and one of dysentery, and to the lower end in all the rest, except in one case of diarrhœa, in which they were all through the length of the gut.

“Cyst forms” were noted in 4 cases of diarrhœa, one a child, and in 7 of dysentery, one a child. In several cases the mucous follicles were observed to exude pus on pressure, and in others they were noted red, pale, or black-mouthed, or patulous.

(To be continued.)

THE HEALTH EXHIBITION AND DR. HIME.

SOME time ago Dr. Hime, Head Master of Foyle College, Londonderry, was presented with a beautiful engraving emblematic of all things pertaining to health and strength by the Executive Committee of the Health Exhibition, signed by the Prince of Wales as President, and countersigned by the Duke of Buckingham and Chandos. Written in copperplate across the surface of the engraving is, “To Maurice C. Hime, M.A., LL.D., for Services Rendered.” The services rendered to health by Dr. Hime are the publication of his book entitled “Morality,” the second chapter of which bears directly on the subject. Across the top of the engraving is written—“From labour health, from health contentment springs.”

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Manual of Pathological Histology, by Cornil and Ranvier. Second Edition, re-edited and enlarged. Translated, with the approval of the Authors, by A. M. HART. Vol. II. Special Pathological Histology—Lesions of the Organs, Part II. London: Smith, Elder & Co. 1886. Pp. 311 to 774.

IN this volume we have the concluding part of the translation of Cornil and Ranvier's classical work. It contains the chapters on the Liver, Peritoneum and Pancreas, on the Hæmatopoietic Organs, the Genito-Urinary Organs, and on the Skin.

It would be idle to dilate on the merits of such a work as this, whose reputation is world-wide—and equally idle to expatiate on the excellence of the translation, which has received full acknowledgment wherever the English language is spoken.

It remains for us only to congratulate our readers on the possession of such a book in their own tongue, and to offer, on their part and our own, most sincere thanks to Mrs. Hart for the labour, so successfully brought to a close, by which this noble work is made accessible to all our students of pathology.

Paralyses, Cerebral, Bulbar, and Spinal. A Manual of Diagnosis for Students and Practitioners. By H. CHARLTON BASTIAN, M.D., F.R.S. London: H. K. Lewis, Gower-street, W.C. 1886. Pp. 671.

THIS book is, as the title-page indicates, a manual of diagnosis. The author's endeavour throughout has been to facilitate diagnosis—to explain and gather up the essential points to be borne in mind by the student or practitioner when he is called upon to decide as to the nature of, and give a prognosis concerning, any case of paralysis that may come before him. There is not a sentence in it upon the treatment of any of the paralyses which it discusses.

It is divided into four parts:—(1) on Paralyses of Encephalic origin; (2) Paralyses of Bulbar origin; (3) Paralyses due to lesions of the Cranial nerves; (4) Paralyses of Spinal origin.

Two-thirds of the book are devoted to the subjects treated of in Parts 1 and 3, twenty-five pages to the paralyses of bulbar origin, and about one-fifth of the book to the paralyses of spinal origin.

Although accurate diagnosis is a great thing, it is not everything; and a glance at the tabulated formulæ of diagnosis for meningeal and intramedullary hæmorrhage of the spinal cord suggests the thought that attempts at diagnosis may be pushed too far.

In the author's opinion syphilis is greatly over-estimated as a cause of locomotor ataxy. He has seen numbers of cases in which the most careful examination and inquiry have failed to reveal any evidence of pre-existing syphilis. He believes that it has not existed in one-fourth of the numerous cases of locomotor ataxy that have come under his observation and treatment.

The division of the book on cerebral paralysis seems to us to be the strongest part of the work.

Taken altogether it must be regarded as a valuable addition to the now numerous works on Neurology.

Elements of the Comparative Anatomy of Vertebrates. Adapted from the German of ROBERT WIEDERSHEIM, Professor of Anatomy and Director of the Institute of Human and Comparative Anatomy in the University of Freiburg-in-Baden. By W. NEWTON PARKER, Professor of Biology in the University College of South Wales and Monmouthshire. With additions by the Author and Translator. 270 Woodcuts. London and New York: Macmillan and Co. 1886. Pp. 345.

THE translation of Professor Wiedersheim's "*Grundriss der vergleichenden Anatomie der Wirbelthiere*," appears opportunely, just as both teachers and students are beginning to feel that Gegenbaur's Handbook is becoming obsolete; and it will be welcomed not only as being abreast of the most modern advances of biological knowledge, but for a simplicity of arrangement, clearness of diction, and fulness of illustration not met with in the translation of Gegenbaur.

The book, having been written chiefly for medical students, admits of compression which would have been impossible had it been meant for general readers. In some few instances the matter has been too much compressed. For example, in the description of the growth of feathers, the earlier part—describing the develop-

ment of an embryonic down feather—is admirably clear, and in striking contrast to Huxley's description, which has for so long been copied *verbatim* into text-books of Zoology, but the further development of the definite feather is dismissed too briefly to be easily understood. The section on teeth also is too short, the illustrations occupy as much space as the text, and several important points, such as growth from permanent pulps, being entirely omitted.

As a rule, the translator has brought the text well up to date, but it seems strange that he did not incorporate the interesting discoveries of Mr. Spenser, recorded in "Nature" on the subject of the parietal eye, which occurs in that ancient survival, the New Zealand lizard, *Hatteria*, which is formed on the invertebrate plan—a discovery which certainly deserved to be recorded in a more important position than under the Addenda to Bibliography.

The text is very fully illustrated. Some of the drawings have, of course, appeared in other works; many, however, have been redrawn, and some are new. In the section on the "Heart and its Vessels," the vessels are printed in red and blue, and the same colours are used to elucidate the details of a diagrammatic representation of the general types of the reproductive organs. The arrangement of types is particularly good, and greatly facilitates reference to any particular point. A fairly copious Bibliography is added to each section, and eleven pages are devoted to an Index.

The Australasian Medical Directory and Handbook. Edited and Compiled by LUDWIG BRUCK. Second Issue. Sydney. 1886. London: Baillière, Tindall & Cox. 8vo. Pp. 269.

YEAR after year numbers of young and recently qualified medical practitioners leave the shores of the mother country to cast their lot and take up their abode in one or other of the great Australasian Colonies, and year after year the demand increases at home for trustworthy information relative to the status of the profession of medicine in those colonies. We, therefore, cordially welcome the publication of what appears to be—if not an official—at all events a reliable Australasian Medical Directory, and we may honestly congratulate both editor and publishers on the very superior manner in which this useful compilation has been brought out. Clear type, good paper, and careful reading for the press, bespeak the reader's attention and claim his confidence.

The work opens with a full abstract of the principal laws affect-

ing the medical profession in Australasia—Fiji, New South Wales, New Zealand, Queensland, South Australia, Tasmania, Victoria, and Western Australia. Then follow the Official Medical Directory of Australasia, a list of the coroners for cities and country districts in the various colonies, a list of the medical and other scientific societies in Australasia; the scales of medical and surgical fees adopted by the profession in New South Wales and Victoria; the regulations affecting medical attendance at “lock-ups” and elsewhere, at the request of the police in New South Wales; the regulations of colonial universities (Sydney, New Zealand, Otago, N. Z.; Auckland University College, Adelaide and Melbourne); a list of Nurses’ Training Schools and Homes, and tables of abbreviations.

The “Australasian Medical Directory,” extending over 71 pages, contains a general alphabetical list of the names of all known legally qualified physicians, surgeons, and general practitioners resident in Australia, Tasmania, New Zealand, Fiji, Samoa, Tonga, and New Guinea, with their addresses, qualifications, past and present appointments. Next comes an “Obituary,” recording the deaths of members of the profession which occurred in Australasia from October, 1883, to May, 1886. In this sad and lengthy roll we regret to see the names of many Irishmen, the land of whose adoption has too soon proved their grave.

A brief geographical definition of the several colonies on pages 179 and 180 is followed by a “General Gazetteer, Road Guide, and Local Directory of Australasia.” This is really an alphabetical list of some twelve hundred post-towns in the different colonies, showing the position and distance of every post-town from its respective capital, routes, character of district, population of town and district, hospitals, gaols, “benevolent or lunatic” asylums, “whether it possesses a money-order or telegraph office, railway or steamboat communication;” and giving a local directory of all resident legally qualified medical practitioners.

On page 255 are given interesting numerical statistics relating to the profession, as well as a list of periodicals devoted to medicine, surgery, and pharmacy, which are published in Australasia.

An “Appendix” of a startlingly novel kind concludes the work. It contains, first, a “complete list of Medical Colleges in America, extinct and existing, *not recognised* in the United States;” and, secondly, a “list of unregistered practitioners, containing the names of all persons known to practice the medical profession in

the Australasian Colonies without being registered with any of the Colonial Medical Boards, with their addresses, alleged qualifications, and *other particulars*." These "other particulars" are in some instances highly amusing—for example: W. Percy Burnaby, 180 Pitt-street, Sydney, "styles himself 'Dr.:' claims to be a 'relative of the lately deceased Colonel Burnaby'" (alas! for the hero of the Soudan!). "Advertises: 'Every quality of disease treated with miraculous success—the Dr. has never failed to cure the most complicated diseases.' At his lectures 'during the evening, the Dr. will sing his local song on the Chinese question, and give an unfailing recipe for the growth of the hair. Ladies and gentlemen matrimonially mated on the stage, and other evidence given of the wonderful Science of Phrenology.'" Again, Dr. Thomas, P.D.M., "attends to any case of Sickness and Disease, Cancers, *Tumers*, Liver Complaints, Indigestion, Stomach Disorders, Female's and Children's Complaints, and every form of Disease treated. Those suffering from Rheumatism, Chest and Lung Affections, Asthma, also Chronic Diseases, would be well to consult Dr. Thomas. Fee Moderate. Dr. Thomas examines every person with test Types, *Jagger's and Talldy's Optimeter*, because if wrong glasses are given it leads to very distressing complaints. Best Pebble Spectacles, £1 1s. per pair. No extra charge for examining the eye and suiting the sight."

Another gentleman describes himself as a "Mesopathist," and another, who is said to have been a *pastry cook*, considers himself "a doctor born out of due time." A gentleman, styling himself "the eminent Oculist, Aurist, etc., specialist in diseases of the eye, ear, throat and skin," further advertises that "he carries with him 2 cwt. of the purest, unadulterated vegetable medicines." Signor Renaud announces that he "practises upon Hygienic, Eclectic, Utilitarian, and Cosmopolitan Principles, nature's own system of healing all forms and phases of disease, discarding altogether the use of Mineral Drugs and Poisons. Success certain in all cases undertaken."

But the most clever of all are the "Dr." who advertises that "all cases of Accouchement and Uterine Diseases of *either* sex will be charged extra," and a "Professor of Medical Botany," who exclaims: "Beware of Drug Doctors and Consulting Chemists" (note the alliteration). "Mercury is the death of Thousands! Nature *versus* Quackery!!"

There are other "Doctors," who advertise still more shamelessly,

such as the eminent specialist who may be consulted at “Box 292, G. P. O., Sydney, and who “sells ‘the Amora Strengthening Wash and Regenerator,’ which—he asserts—‘strengthens the relaxed condition of the generative organs, and will be a source of relief to married men unequal to the duties imposed upon them; *in his own case the result exceeded his most sanguine expectation.*’” What a striking example of confidence in a remedy is this! *Fiat experimentum in corpore vili!*

The most astonishing thing about these entries is their authorship. To every person whose name appears in the list of unregistered practitioners a circular was sent, with a request to furnish the Editor with particulars as to his or her (for there are several female names in this black-list) medical training, etc., and the entries are the result of this direct application for information to the individuals concerned.

In concluding this notice we would congratulate Mr. Bruck on the admirable way in which he has completed his self-imposed and most arduous task.

The Science and Practice of Surgery. By FREDERICK JAMES GANT, F.R.C.S., Eng.; Senior Surgeon to the Royal Free Hospital. Third edition. Two vols. Pp. 1089, 1183. London: Baillière, Tindall & Cox, 20 King William-street, Strand. 1886.

THIS is the third edition of Mr. Gant's book—a fact that emphasises in the way most agreeable to an author the success of his efforts. It is not a mere reprint of the last volumes, for there is a substantial increase to the extent of nearly five hundred pages. In the work connected with special branches of surgery he has secured the aid of capable writers; but the chapters on that mass of surgery which is recognised as belonging to the general surgeon have come from Mr. Gant's own hand. They show industry, sound judgment, and extensive knowledge.

The part of the book that strikes us as being, on the whole, pre-eminently good, is that devoted to the disease and injuries of the genito-urinary organs. The chapter on urinary deposits is full and accurate, and is one that will be found of great use to the practitioner or the student who has not access to the elaborate treatises which have been published on the subject. The other parts of the same subject are written with evident personal knowledge, and are practical and good. A most useful contribution on

the sphygmograph, by the late Dr. Mahomed, in the chapter on Inflammation, is another excellent feature.

The chapters on Excision of Joints are interesting, and contain some valuable statistics as to results. We are surprised to note the number of deaths recorded as a result of excision of the knee in various hospitals. Twenty is a per-centage of mortality which about equals the present London rate after amputation of the thigh. It certainly does not correspond with our own experience. In the course of twelve years the reviewer has never seen a death after excision of the knee in his hospital, either in his own practice or in that of his colleagues; and the same may, he thinks, be said generally of the results in Dublin. The cause might be investigated with advantage.

We have spoken before of previous editions of Gant's Surgery; and we can honestly commend this edition to students and practitioners. It is not by any means invariably accurate; and in some chapters where an attempt is made to give statistics they are out of date, and have been outstripped in other books. We think Mr. Gant might, with advantage to himself and his readers, be a little more generous to the poor provincial surgeons. London is a big place, but it is not yet the world; and, so long as it is not, there may be some advantage to be gained in looking occasionally outside its limits.

The Baths, Bathing, and Attractions of Aix-les-Bains, Savoy: its History, Geology, Mineral Waters, and the Places of Interest in its Neighbourhood; with other Useful Information for Visitors. By W. WAKEFIELD, M.D., Glasgow University; Doctor of Medicine, Faculty of Paris; Physician to the Thermal Establishment of Aix-les-Bains and Marlioz. London: Sampson Low, Marston, Searle, & Rivington. 1886. Pp. 223.

THIS is an excellent little Guide-book to Aix-les-Bains and its neighbourhood. The medical ingredient is not obtrusive, and full information is given upon all the advantages, scientific and æsthetic, which this watering-place offers to its visitors. Two copious springs supply the mineral waters, one having a temperature of 115° F., the other of 113°. They are called respectively the Alum and the Sulphur Spring, but they differ little in composition. In addition to their inorganic constituents, both contain an organic substance (called *barégine*) rich in silica and iron.

Chemistry of the Carbon Compounds; or, Organic Chemistry. By Professor VICTOR VON RICHTER. Translated by EDGAR F. SMITH. London: Henry Kimpton. 1886. 8vo. Pp. 710.

AN organic chemistry which combines the authorship of a distinguished German chemist with an introduction by an American, is a work from which much will be expected, as the popular voice of the present day loudly declares that Germany is the birthplace of originality of conception, and America the country of practical undertakings.

In reviewing a book of this kind we take our position from three aspects of it:—

1. As an exponent of the ideas of chemical philosophy (which are the reflectors without which the details of organic chemistry must be as inscrutable to the student's mind as the symbols of the sorcerer were to the simple-minded Crusaders).

2. As a compilation and description of the vast and varied organic compounds which are every day being produced by the synthetic power of the chemist.

3. As an account of some special series of work which has originated in the laboratory of the author.

In the first 44 pages, devoted to chemical philosophy, we find the definitions clear and succinct; the practical methods are sound; that for vapour density is according to Victor Meyer's method, which estimates the volume of vapour by displacement of air. This is open to objection on theoretical grounds—principally on arguments deriving support from Graham's law of atmolysis.

The definition of metamerism is new and ingenious; and finally, if the space devoted to the teaching of chemical philosophy is limited, ample amends are made in footnotes referring to authorities upon the subject in hand.

In the remaining 650 pages, which are well written and clear, the more important compounds, being printed in large type, the less so in small, we find, *inter alia*, lucid demonstrations of the links connecting the fatty series, with the aromatic; in the graphic formulæ of trimetheline and tetrametheline.

The graphic formulæ of the aromatic series is well depicted, and demonstrates intelligibly the apparent inactivity of the numerous carbon atoms in their compounds.

Some terms not commonly used in the text-books of this country are employed—as, esters, aldoxims.

Esters are etherial salts, whose radicals are both compound and organic, so that the ethers may be classified into simple, mixed, haloid, oxygenated, esters.

Aldoxims are formed by the union of aldehydes with hydroxylamine with elimination of a molecule of water.

In concluding these remarks, which we are happy to be able to make so favourable to our German and American cousins, we will say that an Organic Chemistry of the "practical type," which takes its initiative from the difficulty which is found in mastering the special ideas connected with the study of carbon compounds, is still badly wanted. In no book can there be said to be a clear teaching of the ideas of isomorphism, metamerism, or of the special links which correlate the different compounds of the isologous and homologous series together.

Religio Medici. By SIR THOMAS BROWNE, M.D. London: Cassell & Company. 1886. Crown 8vo. Pp. 192.

THIS little book is one of a series of volumes of English classics, at present appearing weekly, edited by Dr. Henry Morley, and constituting Cassell's "National Library." Each volume is beautifully printed, and costs the astonishingly small sum of three pence, or in cloth binding, sixpence.

From Dr. Morley's introduction to the volume before us we learn that the author of the "*Religio Medici*" was born in London, in October, 1605. In due course he studied medicine, spending some time at the famous medical schools of Montpellier and Padua, and finally graduating as Doctor of Medicine at the University of Leyden. He was subsequently admitted to the same degree at Oxford in July, 1637. About this time he seems to have written for himself alone, at the age of thirty, soon after his return to England and before he settled down to practice at Norwich, the eloquent and thoughtful book which he called *Religio Medici*—the Faith of a Physician. In 1641 Dr. Browne married a lady, who survived him. They had twelve children, of whom only one son and three daughters outlived their father. In 1658 he discussed burial customs with much curious learning, and with such depths of thought and feeling in some eloquent passages as to place his "*Hydriotaphia*," or "*Urn Burial*," beside the "*Religio Medici*" among our English prose classics. His dissertation on "*Urn Burial*"

was suggested by the digging up of some old sepulchral urns in Norfolk.

After the Restoration, in 1664, Dr. Browne was enrolled among the Honorary Fellows of the College of Physicians of London. In September, 1671, when he was sixty-six years old, he was knighted by King Charles II. under somewhat curious circumstances. The king visited Norwich, and "*in celebration of that very trifling fact*"—as Dr. Morley remarks—he wished to knight some principal inhabitant of the town. He therefore offered knighthood to the Mayor, who declined the honour. The next greatest man to the Mayor was the learned and affluent physician, Dr. Thomas Browne, who thus became Sir Thomas for the rest of his life—that is to say, from September, 1671, to his death in October, 1682, when he died as Sir Thomas Browne; but during those last eleven years *he wrote no more.*" This passage would lead one to think that Dr. Morley has no great respect for titles—at all events for the titular distinction of "K.B."

We read this quaint old treatise with keen interest and pleasure. It sparkles with epigrams and is written in terse, honest English. Of course, we do not agree with all Sir Thomas says, but many lessons are to be learned from his pages—not the least of which is the lesson of religious toleration. Some of his epigrammatic phrases are well worth quoting. For example:—"Art is the perfection of Nature. . . . Nature hath made one world, and Art another. In brief, all things are artificial, for Nature is the Art of God." Again: "As Reason is a rebel unto Faith, so Passion unto Reason." Speaking of suicide he observes:—"This is indeed not to fear death, but yet to be afraid of life. It is a brave act of valour to condemn death, but where life is more terrible than death, it is then the truest valour to dare to live." "I hardly think there was ever any scared into heaven." "I give no alms only to satisfy the hunger of my brother, but to fulfil and accomplish the will and command of my God. I draw not my purse for his sake that demands it, but His that enjoined it." "I make not my head a grave, but a treasure of knowledge. . . I study not for my own sake only, but for theirs that study not for themselves." "Pride—a vice whose name is comprehended in a monosyllable, but in its nature not circumscribed with a world." "Those three noble professions, which all civil commonwealths do honour, are raised upon the fall of Adam, and are not exempt from their infirmities; there are not only diseases incurable in physic, but cases indis-

soluble in laws, vices incorrigible in divinity.” “I can cure vices by physic, when they remain incurable by divinity.” “I boast nothing, but plainly say we all labour against our own cure—for death is the cure of all diseases.” “We term sleep a death—in fine, so like death, I dare not trust it without my prayers, and a half adieu unto the world, and take my farewell in a colloquy with God. This is the dormative I take to bedward; I need no other laudanum than this to make me sleep, after which I close mine eyes in security, content to take my leave of the sun, and sleep unto the resurrection.”

These quotations will give some idea of the quaintness of this dissertation written by a not unworthy member of the profession two and a half centuries ago.

Appended to Sir Thomas Browne’s treatise are the critical “Observations upon Religio Medici, by Sir Kenelm Digby, Knight,” in the form of a letter addressed to “The Right Honourable Edward, Earl of Dorset, Baron of Buckhurst, etc.”

Year-Book of the Scientific and Learned Societies of Great Britain and Ireland: comprising Lists of the Papers read during 1885 before Societies engaged in Fourteen Departments of Research, with the Names of their Authors. Compiled from Official Sources. Third Annual Issue. London: Charles Griffin & Co. 1886. Pp. 236.

THE title-page sufficiently describes the contents of this valuable periodical. The volume for 1884 gave the history, organisation, &c., of the Societies, from information supplied by their officials. The present issue, which exhibits the form in which the Year-Book will henceforth appear, contains, in addition to details of the working, &c., of the Societies, brief notices of some State Departments, as the Geological Surveys and the Royal Observatory. We wish success to this most useful undertaking.

PART III.

HALF-YEARLY REPORTS.

REPORT ON MATERIA MEDICA AND THERAPEUTICS.

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1. *Blistering by Cantharides.*—Frequent complaints are made of the quality of the preparations of cantharides which are used for blistering. The fault, however, sometimes lies not in the preparations but in the mode of applying them, and in this connection some remarks in Squibbs' "Ephemeris" are deserving of attention. In order to test the quality of a blistering material, let the following experiment be tried:—

A small space on the inner side of the forearm is selected, and one half of it is carefully cleansed, first with soap and water, and then with dilute acetic acid or vinegar. Then two spaces of about half an inch in diameter each are covered with the vesicant, one upon the cleansed surface, and the other upon the adjoining un-cleansed surface. Commonly by the end of five or six hours the spot on the cleansed surface will be blistered, and often both will be blistered if the weather be cool and the skin dry. But in

summer weather, or if the skin be moist with perspiration, the uncleansed surface will rarely be blistered, and often will not even be reddened, while the cleansed surface will almost always be blistered.

The explanation of this is found in the circumstance that the active principle of cantharides is not soluble in water, and therefore a very thin film of water will prevent the blistering preparation coming in contact with the cuticle. Both the healthy and unhealthy excretions of the skin are liable to so cover it as to prevent the necessary close contact, and even soap and water, unless very thoroughly applied, do not always remove these excretions. But the excretions which are not removed by soap and water are easily soluble in dilute acetic acid or vinegar, while the active principle of cantharides is also freely soluble in acetic acid, and hence the utility of this old-fashioned mode of cleansing the surface for a blister.

These complaints are most frequent in summer, and come from the use of the cantharidal collodion. The explanation of this is that in warm weather the skin transpires moisture so rapidly that even when well cleansed and well dried a film of moisture may be thrown off under the blistering preparation before it can act upon the cuticle and thus separate it as effectually as though it had been applied to wet skin. In occasional trials of cantharidal collodion to a perspiring surface, especially when active exercise has been taken after the application, thus promoting transpiration, the pellicle has been found detached, and therefore, of course, quite without effect. It is believed that upon a clear dry skin that is not perspiring the collodion never fails to blister, and it has the advantage over the cerates of so strengthening the cuticle that it may, if desired, be kept in place indefinitely."

[We much regret to see by a notice at the end of No. 12, Vol. II. of the "Ephemeris," that the authors (Messrs. E. R. Squibb, M.D., E. H. Squibb, M.D., and C. F. Squibb, A.B.) have decided to abandon the publication and distribution of this valuable series of pamphlets.—*Rep.*]

2. *New Remedies.*—Some of our readers who may have occasion to employ any of the subjoined drugs of recent introduction may be glad to possess for reference a succinct account of their physical and chemical qualities. These results were obtained by the Pharmacopœia Commission of the German Pharmaceutical Asso-

ciation, to whom the new remedies were submitted for examination. This plan seems to be an admirable one, and deserving of imitation by the compilers of the future editions of the B. P.

Ichthyol-Sulphonate of Ammonium.—A red-brown syrupy liquid with igneous bituminous odour and taste, puffing up considerably and carbonising when heated, and upon continued incineration volatilising without residue. Water dissolves it to form a clear red-brown liquid of faintly acid reaction, and the same is the case of a mixture of equal volumes of alcohol and ether. Pure alcohol or ether dissolves it only partially; petroleum benzine only takes up a small quantity. Upon the addition of hydrochloric acid to the aqueous solution a dark resinous mass is precipitated, which when separated is soluble in ether and in water, but is again thrown out from the latter solution by hydrochloric acid or sodium chloride. Treated with potash solution the preparation develops an odour of ammonia, and the mixture dried and burnt yields a hepatic coal, which with hydrochloric acid gives off sulphuretted hydrogen.

The ichthyolate of ammonium loses upon drying in a water-bath at least half its weight.

Arbutin.—Slender, white shining crystalline needles, without smell, with a gradually developed, but persistent, bitter taste, melting at 167° to 168° C., and burning at a higher temperature without residue. It forms neutral solutions with 8 parts of cold water, 1 part of boiling water, and 16 parts of alcohol; in ether it is scarcely soluble. Upon heating 1 part of arbutin with 8 parts of peroxide of manganese, 2 parts of sulphuric acid, and 1 part of water, it gives off the penetrating odour of quinone. The watery solution is rendered blue by a small quantity of solution of perchloride of iron, and green by a larger quantity. No precipitate is produced by either acids or alkalies. It blackens ammoniacal silver nitrate solution first after boiling with dilute sulphuric acid, and throws down cuprous oxide from alkaline copper solution upon heating. It dissolves in sulphuric acid colourless, turning red after a short time; a trace of nitric acid turns this solution yellow-brown.

An aqueous solution (1 in 20) is not changed by sulphuretted hydrogen.

Ichthyosulphonate of Sodium. *Ichthyol*.—A brown-black tar-like mass with a bituminous odour, puffing up when heated, and carbonising to an alkaline hepatic coal which colours the flame intensely yellow, and after continued incineration leaves an ash, an aqueous

solution of which with excess of nitric acid is at once coloured strongly blue by barium nitrate. Water dissolves the preparation to form a somewhat turbid, dark brown, almost neutral liquid, with a green fluorescence. A mixture of equal parts of alcohol and ether dissolves it with a clear deep brown colour, as also does benzol, but pure alcohol or pure ether dissolves it only partially, and petroleum benzine scarcely at all. The aqueous solution treated with hydrochloric acid in excess throws out a dark resinous mass, which after separation is soluble in ether and in water, but is again separated from the latter by hydrochloric acid or sodium chloride. No ammonia is evolved from the aqueous solution upon warming it with soda solution.

Pelletierin Tannate. Punicin Tannate.—A yellowish amorphous powder, without smell, with an astringent taste and faintly acid reaction; soluble in about 700 parts of water, 80 parts of alcohol, and freely in dilute acids upon warming. The aqueous solution is precipitated blue black by perchloride of iron. If a hydrochloric acid solution be shaken with excess of soda solution and ether, the ether separated leaves after evaporating spontaneously slightly yellowish oil-like drops, having a peculiar odour and strongly alkaline reaction, and which form fumes when brought near to hydrochloric acid.

Pyridin.—A clear, colourless, volatile liquid, with an igneous odour and burning taste, and, in aqueous solution, an excessively alkaline reaction; boiling at 116° to 118° C.; miscible clear with water, alcohol, ether, benzine and fixed oils. Specific gravity 0.980. Pyridin gives rise to precipitates in solutions of most metals, but not in those of lead acetate and magnesium sulphate. Copper sulphate solution is coloured deep blue by excess of pyridin. Hydrochloric acid solution of pyridin gives with solution of iodine a brown, with bromine water an orange-yellow, and with platinum chloride a yellow crystalline precipitate.

Pyridin should not be altered by light. An aqueous solution (1 in 10) is not reddened by phenolphthalein; 5 c.c., with two drops of volumetric potassium permanganate solution added, should preserve the red colour at least an hour.

0.79 gram (0.8 c.c.) of pyridin is saturated by 10 c.c. of normal hydrochloric acid.

Thallin Sulphate.—A yellowish-white crystalline powder with an odour resembling that of coumarin, and an acid saline, but at the same time bitterish aromatic taste, melting upon being heated, and

carbonising to a heavy but completely combustible coal. It is soluble in 7 parts of cold water, half part of boiling water, more difficultly in alcohol, and almost insoluble in ether. The aqueous solution has an acid reaction, turns brown gradually under the influence of light, and gives a brown precipitate with solution of iodine, and a white one with tannic acid; barium nitrate produces a white precipitate insoluble in hydrochloric acid, and caustic alkalies give rise to a white precipitate that disappears upon shaking with ether. A dilute aqueous solution (1 in 100) is coloured by perchloride of iron deep green, passing after some hours to deep red; fuming nitric acid colours a dilute aqueous solution reddish. Sulphuric acid dissolves thallin sulphate colourless, but upon the addition of nitric acid it becomes deep red, and immediately afterwards yellow-red.

Thallin sulphate should be kept sheltered from light.

Thallin Tartrate.—A yellowish-white crystalline powder, with the smell and taste of thallin sulphate, soluble in 10 parts of water, less freely in alcohol, and scarcely soluble in ether. When heated it melts and carbonises. The aqueous solution shows the same reactions as that of thallin sulphate, except that it remains unaltered on addition of barium nitrate, and upon the addition of potassium acetate it separates a crystalline precipitate, forming flocks with lime water.

To be kept sheltered from light.

Urethan.—Colourless prismatic crystals, odourless, and having a peculiar cooling taste, melting at 48° to 50° C., boiling at about 170° C., and subliming undecomposed, or if ignited, burning without residue. Urethan readily forms clear neutral solutions in water, alcohol, ether and chloroform. In sulphuric acid it dissolves without colour; upon heating the solution foams and gives off a colourless and odourless gas. Heated with potash solution ammonia is evolved.

An aqueous solution (1 in 10) does not become turbid on the addition of silver nitrate; two volumes mixed with one volume of sulphuric acid, and two volumes of ferrous sulphate solution run in on the top, should not form a brown intermediary zone.—*Pharm. Jour.*, Apr. 17.

3. *The Aconitin Question*.—In an elaborate paper contributed to the *Archiv der Pharmacie*, 1885, Mandelin points out that in the aconite bases we appear to have an interesting group, analogous

to the atropin alkaloids, aconin being the fundamental base in one and tropin in the other. Just as tropin in combination with tropic acid yields the natural pharmacologically similar mydriatic alkaloids atropin, daturin, hyoscyamin, duboisin and hyoscin, and in combination with mandelic acid, &c., yields homatropin and the other artificial tropins, so in the author's opinion aconin in combination with benzoic acid gives aconitin and japaconitin, and with veratric acid pseudaconitin. There is also a highly interesting pharmacodynamic analogy in the fact that the basic constituents of both the aconitins and the tropins—aconin and tropin—possess relatively slight, or almost no toxic powers. But upon introducing the above-mentioned non-poisonous acids to form ether-like compounds the most powerful poisons at present known are obtained.

Aconitin and pseudaconitin differ essentially from one another (1) in their behaviour towards fused caustic potash or on boiling with strong alcoholic potash; (2) in their behaviour towards fuming nitric acid and alcoholic potash; and (3) in their behaviour towards vanadium sulphate. All three of these differential reactions give with aconitin a negative, but with pseudaconitin a positive result, dependent upon the veratric group in pseudaconitin. The first reaction can be obtained with a very small quantity by heating the alkaloid in a small silver spoon with excess of potassium hydrate and a little water until it fuses quietly, dissolving the fusion in a little water acidulated with hydrochloric acid and shaking with light petroleum spirit or ether. The extract upon evaporation leaves the protocatchuic acid, resulting from the veratroyl-aconin, generally in handsome well-formed crystals, which when dissolved in a very little water give with a dilute ferric solution the characteristic green coloration. The formation of a protocatchuic acid is also effected by boiling the alkaloid in a test glass with strong potash solution, and a little alcohol to dissolve the alkaloid.

The reaction with fuming nitric acid and alcoholic potash is much more easily carried out. If a small quantity of alkaloid and a few drops of fuming nitric acid be evaporated on a watch-glass or small dish a yellow residue is obtained which gives with a solution of caustic potash in absolute alcohol a beautiful purple-red colour. This reaction is dependent upon the presence of a polynitro-derivative—whether of pseudaconitin or of veratric acid the author is unable to say—which is formed together with lower nitro-derivatives.

Further, if pseudaconitin be heated with concentrated sulphuric acid and then one or more drops of vanadium sulphate added, it gives a violet-red colour. This reaction is due to the breaking up of pseudaconitin, when warmed with sulphuric acid, into aconin and veratric acid, the latter giving with vanadium sulphate the violet-red colour.

On the Acceptance of Aconitin as an Official Preparation.—Should aconitin ever come into general use in medicine the author thinks it is desirable that only the pure crystallised alkaloid—benzoyl-aconin (aconitin)—should be used and included in the Pharmacopœias. Only in this case can the dose be exactly regulated, which with so heroic a remedy as benzoyl-aconin is probably to be considered as the first condition for the production of the desired result.

Pure crystallised aconitin possesses enormous toxicity. From his experiments on animals the author concludes that 3 milligrams of pure aconitin would be a lethal dose for a man weighing 60 kilograms, or 0·05 milligram per kilo. The maximal dose of pure crystallised aconitin should be 0·1 milligram, and not to exceed 0·5 milligram in the day. No solution for either internal or hypodermic administration should exceed a concentration of 1 in 4,000, or at the most 1 in 3,000. The crystallised nitrate should be dissolved in distilled water, or in a cold saturated solution of thymol.—(*Pharm. Journ.*, March 20.)

4. *Caffein*.—M. Tanret recommends for hypodermic use this solution :—

Rx.	Benzoate of sodium,	.	2 gr. 95 cgrm.
	Caffein,	.	2 „ 50
	Distilled water,	.	10 c.c.

Mix in a mortar the caffein and sodic benzoate, then add the water; filter.—(*Rép. de Pharm.*)

Ethoxycaffeïn.—A curious body introduced into therapeutics by Filehne, has been the subject of some interesting experiments by M. Dujardin-Beaumetz. It is a strongly basic body in white crystalline needles, insoluble in water, slightly soluble in alcohol and ether, and represents a molecule of caffein in which an atom of oxygen has been replaced by the ethoxyl group, OC_2H_5 . M. Dujardin-Beaumetz states (*L'Union Pharm.*, Avril) that the introduction of the ethoxyl group into the atomic constituents of caffein appears to modify the physiological and therapeutic

properties of that alkaloid, and give to it a marked sedative action upon the cerebro-spinal system as well as incontestable narcotic properties. The effects of a dose of 25 centigrams of ethoxycaffein have been found especially appreciable in the treatment of headache. It also yielded relief in several cases of facial neuralgia, and in doses of 50 centigrams induced sleep, but the hypnotic and analgesic properties are inferior to those obtainable with other medicines. Ethoxycaffein presents some difficulties in administration in consequence of its insolubility, and a tendency to produce disturbance of the stomach and nausea is more marked when given in powder than in solution. It is, however, soluble in a solution containing an equal quantity of sodium salicylate, and in order to attenuate the stomach disturbance a small quantity of cocain hydrochlorate has been successfully associated with it.—(*Pharm. Journ.*, May 1.)

5. *Sparteïn*.—A volatile base discovered by Stenhouse in the common broom, is a colourless liquid, heavier than water. An examination of the physiological properties of the sulphate of sparteïn has lately been made by M. Germain Sée and Dr. Laborde, who have published the results obtained by them in a paper read before the Paris Academy of Sciences (*Comptes Rendus*, ci., p. 1046). From this communication it appears that sulphate of sparteïn has a marked tonic action on the heart more prompt and more lasting than that of digitalis or convallamarin, that it restores the rhythm of the heart's action better than any known remedy, and that it resembles belladonna in accelerating the heart-beats in weak and atonic conditions of the heart. The salt has been given in the dose of 0·10 gram dissolved in water. It does not appear to have any injurious action on the digestion or on the nervous system generally.—(*Pharm. Journ.*, Dec. 26, 1885.)

6. *Hopein*.—Under this name a substance has lately been advertised as a narcotic alkaloid, said to be obtained from a variety of hop growing in central America. The result of the examination of it by Dr. B. Paul and others is to show that an audacious fraud has been attempted to be palmed off upon the public. The supposed new alkaloid turns out to be a mechanical mixture consisting chiefly of morphin, associated with cocain, and perhaps a little atropin. The swindle was a bold one, as hopein was quoted at about fifteen times the price of morphin.—(*Pharm. Journ.*, April 17, 1886.)

7. *Pruritus Ani*.—Every practitioner will be glad to hear of an unfailing (!) method of treatment for this obstinate and distressing complaint, and Dr. Johnston, of Washington, offers the following suggestions which others may wish to test in their practice. He commences by clearing out the patient with a smart mercurial purge and saline draught; should the tongue be furred, iodide of potassium is prescribed internally (with or without the addition of Fowler's solution), and the local treatment should be begun by the institution of the most perfect cleanliness. The patient should be instructed to wash his anus well with a cloth and cold water after each action of the bowels, and then to bathe his anus with the following wash:—

Rx.	Hyposulphite of soda,	.	.	3 ss.
	Carbolic acid,	.	.	3 ij
	Distilled Water,	.	.	3 iv.
	Glycerine,	.	.	3 ij.

Mix. Sig.—Shake the wash well, and use freely after first thoroughly washing the anus with cold water.

In addition to this treatment, the patient must every night or two, after undressing for bed and washing and drying his anus, lie upon his face, and with his hands behind him, separate his nates as widely as possible, and be instructed to strain as at stool, and while thus straining the bowel will protrude, and while the bowel is protruding in consequence of the strong effort, five or ten grains of iodoform must be sprinkled upon the anus from a knife or spatula by an assistant. The minute eruption which causes this most distressing itching will be found most abundant at the junction of the mucous membrane of the rectum and the skin of the anus, and it is at this situation that the application does the most good. The patient should allow the iodoform to remain in the position of its application during the night, repeating during the day his ablutions of the anus after each action. The probability is that after two or three nightly applications of the iodoform all pruritus will disappear; but the patient should be directed to have the application of the iodoform continued three or four times a week until he is entirely relieved. I have never known a case to resist this treatment; and frequently washing the anus well, and nightly applying the iodoform, is the only treatment I prescribe.—(*Med. and Surg. Rep.*, April, 1886.)

In some other American journals menthol is highly spoken of in pruritus and urticaria. Not only is the itching relieved for the

time, but a cure seems to be effected. In pruritus ani, and in eczema, moistening the parts with menthol solution causes an immediate cessation of the pain. The solution should contain from two to ten grains of menthol to the ounce of water.—(*Pharm. Journ.*, May 15, 1886.)

8. *Lanolin*.—This new basis for ointments continues to attract attention, and has come into extended use. Liebreich informs us that a “lanolinum purissimum” can now be produced which has exactly the consistence necessary for ointments, and does not require the addition of extraneous fat. For massage this purified lanolin is well qualified, and, after applying it, it is only required to wipe the rubbed places with a dry cloth to remove all trace of greasiness (*Brit. Med. Journ.*, July 17, 1886). In a preliminary note in the *Russkaia Meditzina*, No. 12, 1886, p. 207, quoted in the *London Medical Record*, Dr. L. K. Pavlovsky, of Kharkov, writes that his experiments with Liebreich’s lanolin (first in Russia) enable him to arrive at the following conclusions:—1. Narcotic extracts, when combined with lanolin, are absorbed by the skin “quite satisfactorily,” their pain-relieving action being obtained “with an almost perfect certainty.” The dose used was only twice as large as that for internal use. 2. Hydrochlorate of quinine is absorbed also very easily. This statement is based on four cases of intermittent fever in children, where lanolin and quinine inunctions rapidly gave the effects desired. 3. When a lanolin ointment with iodide of potassium is rubbed in, iodine appears in the urine not sooner than two, four, or six hours after inunction, while Lassar obtained iodine from the urine about three minutes after friction. 4. In children, lanolin is better absorbed than in adults. 5. Washing the skin with ether considerably facilitates the absorption of lanolin ointment. 6. In general, lanolin is a substance which promises to supersede all other constituents for ointments, and even, in certain cases, to render superfluous the internal use of drugs.

Dr. Shoemaker, of Philadelphia, points out how Liebreich’s investigations into the comparative non-absorbability and non-penetrating quality of glycerine fats and mineral oils confirm his own inquiries in a similar direction. He has been led to form a high opinion of the utility of lanolin in cutaneous affections, and gives, in the *Med. and Surg. Rep.*, April 3, 1886, a list of formulæ for its employment as a vehicle for various drugs.

9. *Compounds of the Aromatic Series*.—The number of the derivatives of benzol (C_6H_6) and its allies which have been introduced into therapeutics is now very considerable, and we shall here briefly note some of the recent investigations which have been made into the action and uses of some of the members of the great “aromatic” series of compounds :—

(a) *Aseptol*.—A short reference to this new claimant was given in the *Report* for April, 1885. Its chemical title is orthoxyphenylsulphurous acid; but this cumbrous and unpronounceable name, together with the empirical term, “aseptol,” are now to be displaced in favour of “sozolic acid” (from $\sigma\acute{\omega}\zeta\omega$, I preserve), M. Serrant being anxious to avoid an erroneous inference from the termination in “ol” that the compound is of a phenol character, and to indicate that it has the properties of a definite and well-characterised acid (*Comptes Rendus*, May 10, p. 1079). Sozolic acid, in fact, besides being soluble in water in all proportions, is described as combining perfectly with bases to form salts, and it is to its capability of saturating ammoniacal bases that its antiseptic action is attributed. The difference in chemical action between carbolic acid and sozolic acid is seen in the fact that red litmus paper placed in a flask containing ammonia gas, after the introduction of sufficient carbolic acid to mask the odour of the ammonia, is turned blue, whilst, if sozolic acid be used, the red litmus does not change colour. M. Serrant also points out that sozolic acid is an “ortho” compound, and that the antiseptic properties of compounds in the aromatic series, which includes the best antiseptics, seem to depend upon their capability of forming an anhydride that is only yielded by the “ortho” compounds; for instance, orthobenzoic acid, or salicylic acid, is antiseptic, whilst paroxybenzoic acid is not. M. Serrant claims that sozolic acid exceeds salicylic acid in antiseptic power; this he accounts for by comparing the formula of sozolic acid ($C_6H_4OH.SO_2OH$), which contains the sulphuryl radical, with that of salicylic acid ($C_6H_4OH.COOH$), where its place is taken by the carbonyl radical.—(*Pharm. Journ.*, May 29.)

(b) *Salol* is the name of a new compound prepared by Professor Nencki, which is said to possess powerful antipyretic and antiseptic properties, and to be capable of replacing advantageously sodium salicylate in cases where that salt is badly tolerated. Salol is a derivative of salicylic acid in which one atom of hydrogen is replaced by the phenol group (*Pharm. Centralbl.*, May 6, p. 219). It is described as a white powder, having a faintly aromatic odour,

and, as it is almost insoluble in water, perfectly tasteless. Professor Nencki states that in the organism salol undergoes a simple splitting up into its two components, without any further modification, both being found in the urine. The decomposition appears to be effected by the pancreas, since the powder brought into contact with comminuted pancreas is at once decomposed. Assuming, therefore, that the decomposition first takes place in the duodenum and not in the stomach, Professor Nencki thus explains how it is that its administration is not followed by disagreeable after-effects. The dose is about the same as that of salicylate of sodium, but as much as four grams daily may be given. The urine, after its administration, becomes very dark, almost black, as after the ingestion of carbolic acid, of which salol contains 38 per cent. No toxic symptoms, however, are produced, probably because the phenol passes through the stomach in combination and is not absorbed. The antiseptic properties of salol are also said to render it useful in the treatment of putrid affections of the mucous membrane.—(*Pharm. Journ.*, May 29.)

(c) *Menthol*.—Elmer B. Kyle mentions the following among the properties of menthol:—When thrown upon water currents are produced to and from the dissolving crystals, similar to the motions observed under the same condition with camphor. Menthol liquefies with chloral, thymol and camphor, and this action is particularly noticeable with thymol, crystals of the two substances, placed in contact, being in a few minutes transformed into a thick oily liquid. On gently heating a mixture of 1 drachm of the aqueous solution of menthol with half a drachm of a solution of 1 grain iodine and 5 grains potassium iodide in 2 drachms of water with a small quantity of potassa solution, the characteristic odour of iodoform is observed. The aqueous solution is not disturbed by ferric chloride or bromine water, but yields a slight turbidity with chlorine water. One grain of menthol yields, with 120 drops of sulphuric acid, a brownish-red liquid of a very disagreeable odour, and on the addition of a little potassium bichromate becomes chrome-green, the colour remaining unaltered for several weeks. Menthol slightly warmed with nitric acid yields a thick wine-coloured oily liquid, and at a higher heat red fumes are given off; on neutralising now with ammonia, a precipitate was observed, which was soluble in alcohol, the solution, when evaporated, yielding an indistinctly crystalline mass.—(*Pharm. Jour.*, Nov 7, 1885, from *Amer. Jour. Pharm.*)

The peculiar sensation of cold experienced when menthol is applied to the skin, especially of the forehead, was the subject of a recent communication to the Physiological Society of Berlin, by Dr. Goldscheider. It has been very commonly assumed that this sensation is due to an actual lowering of the temperature of the skin, consequent upon evaporation. Dr. Goldscheider found, however, that when a solution of menthol in lanolin was rubbed into circumscribed spots on the skin, although there was a decided sensation of cold, the thermometer showed that at the places where the application had been made there had resulted a rise in the temperature of about 2° C. The feeling of cold was also experienced when the effect of evaporation was guarded against by applying a watch-glass to the place where the menthol had been rubbed in. Moreover, when of two places on the forehead exactly corresponding with each other, one was rubbed with menthol salve and the other not, bodies which before produced no particular sensation felt cold when applied to the place that had been rubbed and remained indifferent when applied to the place that had not. Dr. Goldscheider's explanation is that menthol exercises a specific influence on the nerves of cold, which are distributed in special abundance over the forehead. He thinks that it also stimulates the nerves of warmth, but to a less degree, so that this effect is only perceptible in localities where the nerves of warmth greatly preponderate. Such a place, he points out, occurs on the "volar side of the lower arm in the neighbourhood of the elbow," where a sensation of warmth is produced by the application of menthol.

(d) *Resorcin*.—In cases of septic diarrhœa, acute or chronic, characterised by fœtor of dejections and the presence in the fæces of a large number of micro-organisms, M. Bogouche obtains excellent results by the internal use of resorcin dissolved in castor-oil previously warmed. In this combination resorcin never provokes the disagreeable symptoms which sometimes follow the use of the drug alone—buzzing in the ears, sweats, dark urine. This difference in action is probably due to the more slow absorption of resorcin when associated with castor-oil.

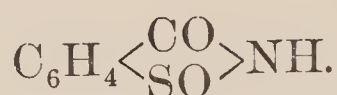
For an adult, a draught may be prescribed:—

Pure resorcin - - - - - 1 gramme.

Dissolve in warm castor-oil - - - 150 grammes.

Salicylic acid may likewise be dissolved in castor oil.—(*Répert. de Pharm.*, Avril, 1885.)

(e) *Saccharin*.—Some time since a certain amount of interest was temporarily excited by an announcement that a coal-tar derivative had been obtained which far exceeded cane sugar in sweetness. The interest has been recently revived by the news that the discovery has received practical application, and that the compound is being manufactured in Leipzig under the name of “saccharin.” Amongst other purposes it has been recommended as a sweetening material for the food of diabetic patients, and with this object pills containing 0·05 gram are prepared, of which one or two suffice to sweeten a cup of coffee. It is said also to form a chemical compound with quinine (*Pharm. Cent.* xxvi., 604). Saccharin is the discovery of Dr. Fahlberg, of New York, and some information in respect to its chemical constitution was communicated recently by Mr. Levenstein to the Manchester Section of the Society of Chemical Industry (*Journal*, Feb. 27, p. 75). It appears from this that saccharin is benzoyl-sulphonic-imide, and may be represented by the formula—



It is prepared by converting toluene $\text{C}_6\text{H}_5(\text{CH}_3)$ into its mono-sulphonic acid ($\text{C}_6\text{H}_4\cdot\text{CH}_3\cdot\text{SO}_2$); transforming this into the corresponding orthotoluene-sulphonic chloride ($\text{C}_6\text{H}_4\cdot\text{CH}_3\cdot\text{SO}_2\text{Cl}$) by treatment with phosphorus pentachloride; introducing an amido group to form orthotoluene sulphamide ($\text{C}_6\text{H}_4\cdot\text{CH}_3\cdot\text{SO}_2\text{NH}_2$), and this by oxidation yields benzoyl-sulphonic-imide or saccharin. It is described as occurring as a white powder, melting at 200°C . with partial decomposition, and crystallising from an aqueous solution in thick short prisms that are difficultly soluble in cold, and more readily in warm water. Alcohol, ether, glucose, and glycerin are good solvents of it, and its solubility in ether might be utilised to detect its presence when mixed with sugar. Saccharin is said to form salts having a sweet taste, and to possess moderately strong antiseptic properties. It is claimed to be about 230 times as sweet as the best cane or beet sugar, to impart an intensely sweet taste to solutions as dilute as 1 part in 10,000 parts of water, and when added to glucose in the proportion of 1 in 1,000 or 2,000 to render it undistinguishable as to taste from cane sugar. Although, therefore, the cost of saccharin is at present relatively high, this might in many cases be more than compensated by its intensity of flavour. Some physiological experiments made by Dr. Stutzer, of Bonn (*Pharm. Centralbl.*, March 4, p. 107), are said to

have shown that saccharin passes unaltered through the organism, and exclusively into the urine, the composition of which it does not otherwise affect. Administered to dogs in large doses for several days successively, it was not found to influence the change of tissue, and it is pronounced to be perfectly non-injurious. When introduced subcutaneously it was rapidly absorbed, and was detected in the urine half an hour afterwards. As this compound may assume considerable importance, it seems unfortunate that a name should have been chosen for it which has hitherto been associated with quite a different body.—(*Pharm. Jour.*, April.)

(*f*) *Hypnone*.—Dr. Dujardin-Beaumetz has recently submitted to the Académie de Médecine and the Société de Thérapeutique the results of his clinical experiments upon the hypnotic properties that he has discovered in acetophenone, methylphenylacetone, or methylbenzoyl. He proposes to confer on this new remedy the name “hypnone,” as being more easily remembered, and at the same time recalling its hypnotic properties.

The compound belongs to the aromatic series, and has for its formula $C_6H_5.CO.CH_3$. It has been obtained by Friedel by causing chloride of benzoyl to react upon zinc methyl, or by distilling a mixture of benzoate and acetate of calcium.

Acetophenone is a colourless, mobile, very refrangent liquid, boiling at $198^\circ C$. It is volatile, and its odour is tenacious and very persistent, recalling at the same time oil of bitter almonds and cherry laurel water. It is not inflammable, but it intensifies the combustion of substances impregnated with it. About $14^\circ C$. it becomes solid and forms a mass of large interlacing crystals. Its density is nearly that of water, but slightly superior. It is not soluble in water or in glycerin. It is neutral in reaction to litmus paper. Acetophenone is very soluble in alcohol, ether, chloroform and benzin.

The liquid produces upon paper a rather persistent oily spot. Brought into contact in the cold with sulphuric acid, hydrochloric acid or perchloride of iron, it gives rise to no reaction or characteristic coloration. With nitric acid there is a production of a yellowish colour. It dissolves bromine and iodine in large proportions with considerable development of heat, especially in the case of bromine.

Dr. Dujardin-Beaumetz was the first to demonstrate the hypnotic properties of acetophenone, which had escaped the observation of Popoff, who after Friedel was occupied with the study of this compound. The dose in which he has administered it to his patients

has varied from 1 to 16 drops, and this dose always induces, according to him, four to six hours of refreshing sleep.^a The quantity should be administered in a single dose to obtain a well-marked hypnotic effect, and it should be proportioned to the age and temperament of the patient. When injected subcutaneously, in the pure state, into guinea-pigs, in a dose of 50 centigrams to 1 gram, it brought on a kind of comatose somnolence, followed by the death of the animal five to six hours after the injection.

Dr. Constantin Paul and Dr. Huchard have also experimented with this medicament in their hospital practice, and they have arrived at conclusions very similar to those of Dr. Dujardin-Beaumetz.

In the first experiments, Dr. Dujardin-Beaumetz administered the acetophenone diluted with alcohol, ether, or glycerine, and enclosed in capsules.

M. Vigier has proposed to administer acetophenone under the form of a syrup, prepared according to the following formula:—

Hypnone,	-	-	-	-	1 drop.
Alcohol (60°),	-	-	-	-	1 gram.
Syrup of orange flowers,	-	-	-	-	6 grams.

A tea-spoonful would correspond to one drop.

M. Vigier has also suggested the form of an elixir:—

Hypnone,	-	-	-	-	1 drop.
Alcohol (90°),	-	-	-	-	3 grams.
Syrup of peppermint,	-	-	-	-	3 grams.

M. Petit has also proposed certain analogous formulæ, into which he introduces glycerin, but this is useless, since acetophenone is as insoluble in glycerin as in pure water.

Lastly, Dr. Constantin Paul administered it in a mixture as follows:—

Hypnone,	-	-	-	-	4 drops.
Glycerin,	-	-	-	-	2 grams.
Looch blanc (Codex), ^b	-	-	-	-	50 grams.

In this preparation the acetophenone remains mixed with the looch; this is probably due to the oil contained in the almonds, and not to the glycerin, which would with advantage be replaced by 2 grams of oil of sweet almonds.

^a It may be well to remark here that hypnone does not act when there is pain; it only procures sleep for persons free from suffering.

^b A preparation resembling *mistura amygdalæ*, but more concentrated, and containing bitter almonds and orange-flower water.

Considering the small doses in which this medicine should be administered, and the precision necessary in its measurement, Dr. Limousin considers it preferable to employ gelatinous capsules, each containing two drops of hypnone and a few drops of oil of sweet almonds. In this way the ingestion is avoided of a certain quantity of strong alcohol or ether, which is relatively large considering that the dose of hypnone is only a few drops.

Whatever may be the future reserved for this medicament,^a the experiments by Dr. Dujardin-Beaumetz will remain none the less interesting as showing the multiple resources presented to therapeutics in the new compounds created every day by modern organic chemistry.

In the organism hypnone is oxidised into carbonic acid and benzoic acid, and so, finally, passes out in the urine as hippuric acid.—(Popoff and Nencki).

M. Bardet points out that as hypnone has an unpleasant taste, and is locally irritant, it is best administered in capsules or pearls. Hypnone does not disorder the stomach, but it must be borne in mind that it does not possess analgesic properties, nor does its hypnotic action seem to be uniformly certain. Its best effects are observed in excited conditions of the brain, and especially in alcoholic subjects.—(*Nouv. Remèdes*, Janv.). Further researches are necessary to determine the value of hypnone.

(g) *Urethan*.—Still another claimant to the hypnotic group of remedies presents itself, and has been introduced by Dr. Schmiedeberg in an interesting paper in the *Archiv für exper. Path. und Pharmacol.*, translated in the *Practitioner*, Vol. XXXV. The paper may be usefully adverted to here since it refers at considerable length to the ethyl salt of carbamic acid, which has been recently recommended as a hypnotic under the name “urethan.” The paper commences with a theoretical sketch of the pharmacological group of the alcohols, in which the following three propositions are laid down:—(1) Extremely poisonous groups of atoms lose the intensity and original character of their action through substitution by hydrocarbons of the fatty series, as in the cases of nitriles and isonitriles, which may be regarded as direct substitution products of hydrocyanic acid. (2) Conversely, the activity of hydrocarbon groups can be weakened or entirely

^a One of the inconveniences of hypnone is that it communicates to the breath a disagreeable odour, due to its elimination by the respiratory organs (*Pharm. Journ.*, Jan., 1886).

abolished by combination with other atoms or groups of atoms, as in the ammonia bases of the fatty series, in which methylamine, dimethylamine, and trimethylamine have essentially the character of ammonia. (3) When the compound is composed, as in ethers and ethereal salts, of two atomic groups united by oxygen, the action of the molecule as a whole depends upon the nature and properties of both components, each playing an independent part. If the components are hydrocarbon groups similar in kind and valency, as in simple and compound ethers, the action of the whole compound is that of a unit; but if the acid in such compounds is poisonous, or has any special action upon the organism, this property becomes manifest, causing the action of the compound to deviate from the fundamental character of the alcohol group, as in nitrite of amyl. Ethereal salts of carbamic acid belong to this last group, and as it appeared probable that in these the hydrocarbon group would retain the original character of its action, and that the group CO as the radical of carbonic acid would not essentially affect the behaviour of the compound, whilst the NH_2 would influence the nerve-centres in the medulla oblongata like ammonium bases, it was decided to investigate the behaviour of these peculiar compounds. The propyl salt being but little soluble in water, and the salts of the higher homologues quite insoluble, they were at first excluded from the investigation, which was therefore limited to the methyl and ethyl salts of carbamic acid. The ethyl salt was prepared by treating commercial ethylchlorocarbonate with aqueous solution of ammonia, shaking the liquor, after neutralisation, with ether, washing the extract with water and distilling off the ether, when the ethyl carbamate was left in the retort, and was afterwards dried over sulphuric acid. Experiments upon animals with solutions containing 10 to 25 per cent. of ethyl carbamate, or "urethan," showed that this compound is capable of producing profound narcosis, in which consciousness, sensation and movement, both voluntary and reflex, are suppressed, exactly as in narcosis from chloroform; the respiratory movements, however, not only remain equal to the normal, but actually increase in frequency and depth, which is attributed to the influence of the NH_2 group, whilst the circulation is not impaired. Urethan, like chloral, is incapable of inducing the higher degree of narcosis required for surgical operations, but Professor Schmiedeberg is of opinion that it can be used generally as an hypnotic, and that it will frequently prove of especial value in cases where the smell and

taste of paraldehyd preclude its use, and where it is desirable to avoid the action of chloral hydrate upon the heart, vessels, and respiration. The investigation is being continued upon some of the other salts.—(*Pharm. Journ.*, Jan. 30.)

In a note upon the therapeutic action of urethan, presented to the Academy of Sciences (*Comptes Rend.*, cii., 827), Messrs. Mairet and Combemale state that they have found this compound to produce decided hypnotic effects in cases of functional mental alienation, where there was not too much excitement; but in cases where the mania was due to organic alteration of the brain it had no somnolent effect. They consider the dose to be from 2 to 5 grams, and that if the latter dose do not produce the desired effect the use of the medicine should be discontinued. It was administered by the mouth in aqueous solution, sweetened and flavoured, and its hypnotic action was usually manifested pretty quickly. But after using it for three to seven days, usually more quickly in proportion to the original susceptibility of the patient, it ceased to have any effect, and it was then necessary to intermit its use for a few days. The sleep induced is described as usually lasting from five to seven hours, being calm and regular, readily broken by external agency, but resumed upon removal of the disturbance, and leaving no abnormal sensation on awakening. Messrs. Mairet and Combemale consider that the indications for the use of urethan lie within narrow but precise limits, and that although its hypnotic properties are not so marked as those of some other medicines, its harmlessness, and the fact that it is sometimes effective where others fail or cannot be supported, give it in some cases a real advantage.

EXCRETION OF URIC ACID BY MALPIGHIAN TUBES OF INSECTS, AND
NEPHRIDIUM OF PULMONATE MOLLUSCS.

DR. MACMUNN has succeeded in obtaining uric acid crystals, recognisable by the microscope and by the murexide reaction, from the Malpighian tubules of *Periplaneta orientalis*, and from the nephridium of *Hebriasparsa* and *Limax flavus*. The parts are crushed, boiled in distilled water, and the extract evaporated to dryness; the residue extracted with boiling alcohol, the alcoholic solution thrown away; the residue again boiled in distilled water and filtered hot. To the filtrate acetic acid in excess is added. After a time the uric acid crystallises out. Hence it may be safely concluded that the Malpighian tubes of insects and the nephridium of pulmonate molluscs possess functions like the kidney of vertebrates.—*Journal of Physiology*, VII., 2.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ACADEMY OF MEDICINE IN IRELAND.

President—ROBERT M'DONNELL, M.D., F.R.S.

General Secretary—W. THOMSON, M.D.

SURGICAL SECTION.

President—SIR CHARLES A. CAMERON, President of the Royal College of Surgeons, Ireland.

Sectional Secretary—WILLIAM STOKES, M.D., F.R.C.S.I.

Friday, April 16, 1886.

DR. HAMILTON in the Chair.

The Nature and Surgical Treatment of Scrofulous Cervical Glands.

MR. KENDAL FRANKS read a paper on the nature of scrofulous glands in the neck and their surgical treatment. The paper dealt, in the first instance, with the connection between scrofulosis and tuberculosis. The history of the discussion, regarding the identity or non-identity of the two affections, was traced, and Mr. Franks showed that the conclusion arrived at up to the Spring of 1882 was that the two diseases could not be separated; that they were both caused by the same virus, but that the nature of this virus had not been recognised. The discovery of the tubercle bacillus in that year had, however, settled the question, and the presence of the bacillus in all so-called "scrofulous" affections proved their tubercular nature. Thus scrofulous disease of joints, caries, cold abscesses, and "strumous" glands must henceforth be all classed under the head of tubercular diseases. Tuberculosis of the cervical glands was shown to be the result of the entrance of the tubercle bacillus at some contiguous abraded part, and most cases could be traced back to some local affection such as eczema of the head, ulcers in the mouth, sore throat, and so forth, all of which afforded a nidus for the bacillus. The constitutional peculiarity, the "vulnerability of tissue," was a most important factor in determining a proper soil for the development of the

organism, and much depended on the dose of the poison received as to the future progress of the case. Three courses were open to the gland to pursue:—First, death of the bacillus and consequent resolution; this was not usual. Secondly, suppuration and expulsion of the tuberculous virus; this might occur in one gland after another, and was of common occurrence. Thirdly, the extension of the disease along the course of the lymphatic glands, and, if this were not arrested, subsequent generalisation of the disease. Mr. Franks urged that surgical measures should be guided by our present knowledge of the dangerous nature of the disease; and that constitutional measures, which should be used in all cases, should not be trusted to exclusively, once the diagnosis as to the tubercular nature of the disease was established. He referred to three surgical measures as being the best, each of which was applicable to its own class of cases:—(1) *Scooping* should be confined to cases in which a sinus already existed, or in which a superficial abscess was connected with a caseous gland beneath the cervical fascia (Teale); (2) *Cautery Puncture*, recommended by Treves, was most applicable to softened caseous glands, which had formed extensive adhesions; (3) *Excision* which had the widest applicability, was chiefly suitable in cases where the glands were still hard and movable. It was applicable to extensive disease, as well as to more limited cases; but he urged that it should be employed when possible early in the cases before softening or adhesions were formed. It was then possible to eradicate the disease, through a small opening, and thus save the patient from an extensive operation subsequently, or, if that were not resorted to, to a prolonged and exhausting process of suppuration. He had operated by this method 18 times. Some of the cases were simple, requiring the enucleation of one, two, or three glands. Others were more extensive. In six cases he had removed a string of tuberculous glandulæ concatenatæ, the number of glands removed varying from 8 to (in one case) 48, at one operation. The results in nearly all the cases were satisfactory, several of the patients seen at intervals afterwards, reaching to two or three years, showing no evidence of recurrence. In three cases a second operation was subsequently required. He held there was no danger from extensive interference with the lymphatic structures, as the glands were functionally destroyed by the disease. In all these cases every gland removed had on section proved to be caseous. In the last case operated on, Mr. Bewley had demonstrated the presence of the bacillus; the other cases had not been examined for the microbe.

The CHAIRMAN said Koch's discovery of tubercle bacillus explained many things that surgeons did not know before; for instance, why a sister who had been nursing a brother through a long attack of phthisis, fell a victim to the disease herself, there being not only predisposition but the existence of the bacillus to generate the disease. Hence the necessity of great care to avoid too close communication between the

nurses and patients in that disease. On the question of treatment there was ample room for discussion. Over and over again he had tried to extirpate the scrofulous cervical glands, but with a want of success which completely discouraged him—the usual result being a large scar, which was very soon followed by a repetition of the disease. He did not mention this to deter others, but he felt it his duty to state honestly what had been his own experience.

MR. THOMSON was not quite sure that surgeons could boast what seemed to follow from Mr. Franks' assertion that, in the treatment of scrofulous cervical glands, they had invaded territory which had heretofore been largely in the hands of the physicians. It was common experience that the physician's treatment often averted what appeared to be a threatening disaster. But there was a large proportion of cases which went to the bad, and, as to their surgical treatment, had been until lately in opprobrium. The present impetus to surgical treatment was due, perhaps, to Teale and Allbutt more than to anyone else. Mr. Franks had classified surgical treatment under two heads—(1) enucleation of the glands, and (2) scraping them out, while there was the third course of non-interference. As to the application of iodine, he had no faith in it. On the contrary, he believed the painting precipitated suppuration by irritating the glands and bringing about a condition to be avoided. Therefore, usually, he would leave external applications alone. But when the scrofulous gland softened or suppurated, what was the surgeon to do before a sinus was formed? He did not agree with Mr. Franks that he should cut down on the gland at once and enucleate, because while there was one gland softened there might be others enlarged simply as the result of irritation. Therefore it was questionable whether a large wound should be made to admit of the removal of a mass of glands when only one was in a tuberculous condition. No matter how finely and carefully the parts were brought together, a cicatrix would be left, and it was not the habit of cicatrices to disappear. The treatment should be adopted with a view to the smallest disfigurement and the largest amount of good. His own practice was—when the gland softened, not allowing the skin to be adherent, he cut down upon the gland with a very small puncture, barely sufficient to admit a small Volkmann spoon, and thoroughly scraped it out; then, having washed it out with chloride of zinc solution, he inserted catgut and allowed the wound to granulate from the bottom, the result being that it healed in a short time. The wound thus made was a small one, and was certainly preferable to a scar of $1\frac{3}{4}$ in. But adopting Mr. Franks' method of cutting down upon and enucleating the gland, would he be certain of not leaving in a neighbouring gland bacilli which had not yet begun to work, but which, after the wound was healed, would set up the mischief, necessitating enucleation and a new scar again? If there were several glands softened and suppurating, the

best treatment would be to attack them all at once; but, where there was a single gland, or even where two were engaged, the surgeon would not be justified in making a severe wound when a smaller wound would do as well. So far as internal treatment was concerned, he had found an extremely good remedy in chloride of calcium, given in 10 to 15 gr. doses, three times a day, continued for several months.

DR. HENRY KENNEDY mentioned, as a surgical point worth remembering, that, having been repeatedly asked to deal with a single gland suppurating, he used simply a thread seton, passing a needle through the length of the suppuration.

MR. CORLEY, having been in daily communication with Professor Purser fifteen or sixteen years ago, had opportunities of observing the way in which glands seem to act as foci for the dissemination of tubercle; and the first point of difficulty was that of recognising whether the glands were really tuberculous or not. Indeed, in his first case, he removed a mass from the posterior superior triangle of the neck, and on examination the glands were not in the slightest degree tuberculous, being merely hypertrophied glandular tissue without any caseous matter. He had very often removed glands answering to the description of tuberculous, so far as understood before the observations of Koch, but in two or three he was obliged to repeat the operation, which he had thought was a complete one, and remove other glands. However, he was satisfied, on the whole, with the result of taking the gland completely away, and in only one instance did the disease progress, setting up general tuberculosis. At the same time, he would not attack every large gland in the side of the neck, because he had seen very large lumps disappear under the influence of internal treatment, and he had sometimes seen external treatment of use in dissipating them. There was one remarkable case—that of a schoolmistress in the North Dublin Union Workhouse—and the operation was so formidable he did not like to undertake it. He put her under treatment of chloride of calcium in combination with arsenic, and in six or eight months the entire lump disappeared. In another case in which he operated, assisted by Dr. Lentaigne, he removed a mass of glands in the side of the neck; but about a month or two afterwards other glands in the neighbourhood began to enlarge. The patient was then seen by Dr. Thomas Little and Dr. M'Donnell, who recommended, in addition to internal treatment, treatment externally by liniment of iodide of potassium and soap. The external treatment was continued after ceasing the internal, and under its influence, more than that of the other, the lumps of glands disappeared. Accordingly, he could not look upon external applications as altogether useless. It was most important to determine whether the glands were really infected with the bacillus, as, if they were, the rational and best treatment was their immediate and complete removal. Enucleating them offered more hope than any other method.

He was impressed with the expediency of early removal of the glands, but not too early, because there was the chance of removing glands which probably in the ordinary course would disappear of themselves.

MR. WHEELER concurred almost entirely in Mr. Corley's observations. He had found considerable benefit result both from local applications and internal treatment; but the local applications which, in his experience, were most useful, were iodide of potassium in solution with belladonna. Therefore, he would be sorry to cut down on a mass of glands without trying both internal and external treatment. In a case of Dr. Finny's which had come under his care, he simply passed in a seton such as Dr. Henry Kennedy had described, and the result was that the matter was evacuated, and the patient had merely the two marks due to the seton—where it entered and passed out. When the pus was evacuated and the deposit was not tuberculous, the glands would subside. As to the expediency of operating, he had operated in cases in which the enlargements had rapidly reappeared after the skin had healed up, and again for the third time, and the operations eventually had a good result. Where the glands were tuberculous they must be removed in a thorough manner.

MR. CROLY mentioned, with regard to the differential diagnosis of malignant glands in the neck, a case of a gentleman, aged twenty-three, with enlarged glands apparently strumous, and the surgeon in charge being of opinion that it was one of ordinary strumous enlargement of the glands, adopted anti-strumous remedies. At length, when he himself saw the case, the enlargement had extended round the entire throat, and it was easy to tell then that it was one of soft cancer. It was therefore important to bear in mind that what was apparently strumous might be of the most malignant form. As to treatment with iodine, his experience entirely coincided with Mr. Thomson's. He had seen so many cases going on to suppuration when irritated that he had given up the iodine liniment, but he did use iodide of potassium and belladonna and iodide of lead. With regard to chloride of calcium in combination with arsenic, he had seen extraordinary beneficial results. At present he had under his care a lady who had had a great deformity at the side of her neck. He had been consulted at the outset with a view to removing the glands with the knife; but he put her under a long course of calcium with arsenic, and the effect was decidedly beneficial. Tincture of iodine had been previously applied, and one of the glands had gone into a state of suppuration. He had seen such good results from prolonged constitutional treatment, he would be more disposed to adopt that practice than to extirpate with the knife. He had a hospital case of cellulitis of the neck. An incision being made to give exit to the discharges, the patient progressed to recovery, but there was a gland in the bottom that would not let it heal, and having applied a bit of potassa cum calce, the gland became enucleated by the caustic cleaning out the cavity, and the part healed up.

DR. BENNETT regarded the excision of the glands in the neck as disastrous, it being impossible to say when the limit of operations would be reached, while there generally followed disease of a more disseminated type. Approving of Mr. Thomson's mode of excision, still he suggested a more efficient, though more cruel, process—that of squeezing the gland between the finger and thumb. In the anterior triangle of the neck the sharp edge of the scoop could not be used, whereas pressure could, and with great safety. He suggested that when a single gland or two happened to be engaged, and there was a difficulty of diagnosis between scrofulous gland and gland enlarged by irritation, the passing the point of a subcutaneous syringe into the substance of the gland with an injection of tincture of iodine would be beneficial.

MR. FRANKS replied:—The introduction of the antiseptic method had greatly modified the surgery of twenty years ago, when the Chairman might well be deterred from excising a large mass of glands with the prospect of suppuration following, and a wound that would take weeks to heal. It was different now, operations being justifiable that would not be undertaken then. In Mr. Thomson's hypothetical case of strumous glands, and others becoming enlarged sympathetically from irritation, there was a good deal of imagination, for in the eighteen cases in which he operated he did not excise a single gland in which he did not find a caseous mass. He did not deny the efficacy of constitutional remedies, but by far the larger number were cases for operative procedure by a clean incision an inch or an inch and a half long, as he had described in his communication. At the same time, he was not an indiscriminate operator. He was guided by the diagnosis of the glands being either scrofulous or sympathetic. If the latter, they would yield to constitutional treatment; if the former, they would not; and once he was satisfied they were scrofulous, he would not wait for suppuration.

Friday, May 21, 1886.

The PRESIDENT in the Chair.

A Case of Ununited Fracture of the Humerus, and a Method of Treatment thereof by Metal Screw-Taps.

MR. HENRY FITZGIBBON exhibited a brace fitted with drills and screw-taps for the fixation of resected bones, and reported a case of ununited fracture of the humerus which he had successfully operated upon by this method. Mrs. T., admitted into the City of Dublin Hospital March 13, 1885, with comminuted fracture of humerus which refused union, was sent to the seaside until November 14th, when she was readmitted with permanent non-union. Operated on upon November 26th successfully by means of screw-taps and wire suture, which were removed

on the 21st day after operation. The patient was exhibited to the Academy with firm union and a useful arm on April 16th. Mr. Fitzgibbon attributed the non-union to the pressure of the comminuted fragment being displaced inwards so as to cause pressure upon the brachial vessels, depriving the lower fragment of sufficient blood-supply.

MR. BENNETT corroborated Mr. Henry Fitzgibbon's description of the operation, which, he said, was performed upon a woman who was an unfavourable subject for it both as regards age and nutrition, presenting, as she did, extreme flabbiness of muscle. The union was perfect not only as regarded junction of the bones but also in their apposition and the line of direction of the humerus, so that there was little or no deformity. In mechanical detail Mr. Fitzgibbon's method offered some advantages, but iron pegs were preferable to silver, as being rigid and efficient, while the silver were flexible.

MR. WHEELER having seen the patient before, during, and since the operation, mentioned the result of his observation. The patient having a fracture of the humerus as described, the house surgeon put up the arm in the usual method with two splints, which were well adapted, and it rested upon a pillow. Next morning the bones, being displaced, were readjusted. The cause of non-union was her indocility and restlessness, wanting to have the splints opened, and not, as Mr. Fitzgibbon had suggested, the want of blood-supply. At the same time, everything except electricity was used to excite inflammation and produce union, so as to avoid operative interference. The operation selected by Mr. Fitzgibbon was that most suitable, and as the result the patient recovered, with every motion perfect except the upward, which was not so perfect as it was before the accident. In his own practice he observed a noteworthy point which he had not seen recorded in the books—namely, that in fracture of the humerus, where there was much immobility, if the bone united, an immensity of callus was thrown out, and that was always on the inner side.

MR. O'GRADY having operated in half-a-dozen cases of ununited fracture, said they varied so much in their conditions that no line of treatment in common could be laid down; for instance, the treatment of a transverse fracture of the humerus was different from that of an oblique fracture of the thigh. He had used ivory pegs till it was suggested that the pigs from which the material was obtained might have had tuberculosis, and thenceforward he used the plain iron pegs, which were driven by means of the common Archimedean drill with an up and down movement. His drill was the one the late Mr. Hutton had. In the after-treatment he adopted the strictest antiseptic procedure—namely, cleanliness and rest, but without the newly-developed paraphernalia.

MR. CORLEY said there were already nineteen different methods for the treatment of ununited fracture, the large number suggesting that

none of them could be regarded as perfect. Mr. Fitzgibbon's formed the twentieth, which he hoped would be perfect. The accident in question—*i.e.*, the non-union of fracture of the shafts of long bones—was of rare occurrence, only one case having come under his observation during twenty years' experience as an hospital surgeon. No doubt, cases arose through the irritability or restlessness of the patient, or want of care on the part of the surgical attendant, pointing to the old adage that "prevention is better than cure." He approved of the ordinary Archimedean drill.

MR. M'ARDLE mentioned the advantage of using a steel gimlet, with a thread the size of the screw, as giving a hold, and obviating the detritus which Mr. Fitzgibbon's instrument produced. He had used ivory screws, which became loosened sufficiently to draw out.

MR. TOBIN considered it was an interesting question to determine how long would the screw bite in the bone, seeing that it ultimately loosened.

MR. FRANKS thought that the method, while ingenious, was rather complicated, and that the surgeon should not be confined altogether to the use of screws. About a year and a half ago he had himself treated a case of ununited fracture of the humerus, the fracture passing through the neck of the bone below the attachment of the capsular ligament. In the first instance, the case had been wrongly diagnosticated as a dislocation and put into splints. At the end of six weeks it was sent up from the country to him. He found the lower fragment projecting underneath the skin, which was so extremely thin he feared the slightest movement would send the bone through it. Having decided to remove part of the bone, he exposed it by an incision from the shoulder, and he then removed about two inches of the lower fragment. From the upper one he could take nothing, because it was bound by the capsular ligament. He scraped the bone to revivify it; then, with an ordinary bradawl, he drilled two holes through the head of the bone, passing through the capsular ligament, and two the other way, through the lower fragment, and inserted two tolerably thick silver wires, joining and twisting them. Six months afterwards he removed the wires, which, but for the irritation they caused, he would have let remain. Following the operation he used more antiseptic precautions than cleanliness and rest. He preferred passing the wires through and thus joining the ununited bones as a simpler method than using screws. The less the surgeon trusted to complicated methods and the more he used his fingers the better.

MR. FITZGIBBON replied:—The argument of Mr. Bennett had convinced him of the advantage of steel screw-taps over silver. The grip of the screw was beyond question; for when he thought he had it sufficiently out to remove it with his fingers he had to re-adjust the brace to extract the last $\frac{1}{8}$ -inch of it. In the cases alluded to it might have been that the ivory screws being taken from measly pigs produced an amount of irritation and suppuration that would account for the loosening. So far from

the brace being a complicated instrument, it was an ordinary carpenter's tool. To make the hole with a bradawl was objectionable, because of the continuous wobbling backwards and forwards, instead of in the same direction like the brace. Having seen Hutton and Hamilton operate in ununited fracture, he noticed a great deal of difficulty in getting the wire through the hole in one fragment and then through the hole in the other. But there was no difficulty in introducing or removing the screw-taps.

Electrolysis for the Treatment of Urethral Stricture.

MR. P. J. HAYES read a paper on the treatment of urethral stricture by electrolysis, the comparatively novel method practised by Drs. Robert Newman, of New York, and S. T. Anderson, of Bloomington. He gave the details of three cases in which he had himself adopted the method with encouraging results. Therefore, he strongly advocated the trial of electrolysis not alone in simple cases but even for the most complicated forms of stricture as calculated to effect unhopèd-for benefit, and as not at all interfering with the subsequent employment of other measures, minor or serious. The outcome of the experience of Dr. Anderson, with whom he had had the advantage of direct communication on the subject, combined with his own, indicated that electrolysis was best adapted for the treatment of annular strictures rather limited in length. Having ascertained the situation of the stricture, the tip or exposed metal bulb of an electrode ought if possible be lodged within it, or, if this was impracticable, the tip must be in close contact with the anterior face of the stricture. Then a small galvanic battery was connected by its negative pole with the urethral electrode, whilst the positive might be attached either to a moist sponge electrode, or, better still, to a thin metal plate covered with moistened chamois leather. The positive electrode would be advantageously applied either to the patient's perinæum or against the inner side of one thigh. As to the strength of the current to be employed the patient's own sensations would prove the best guide. The current should be perceived, but it ought not to be pushed to cause pain, nor should the surgeon attempt more than it was needful to effect at each *séance*, using only mild currents, and manipulating the electrode with gentleness, and never pushing it through the stricture, as it accomplished more by being allowed to remain in the stricture than by being caused to quickly traverse it. The *séances* might be repeated every ten days if desired. Cauterising would be produced when strong currents were employed, but with mild currents the gradual breaking up of fibroid tissue was effected by a combination of chemical decomposition and vital absorption until but a thin lamella of cicatricial tissue remained to mark the seat of the stricture.

The PRESIDENT.—Do you think there is actual chemical decomposition as the effect of the electrode which appears to liquefy the

nitrogenous matter—in other words, that the effect is more chemical than physical?

MR. HAYES.—Certainly more chemical than physical. There is probably a combination of both.

MR. FITZGIBBON said it would be a step in advance if electrolysis proved a permanent cure for resilient stricture.

MR. TOBIN observed that there was a difficulty of a two-fold character which the surgeon encountered—first, to know with certainty whether he was pressing on the stricture, and, secondly, whether it was permeable.

MR. BENNETT suggested the desirability of taking precautions in directing the action of the current.

MR. CORLEY indicated the number of false passages in the immediate neighbourhood of the urethra, not one of which could be distinguished from it, and asked would the point of the instrument have the same effect if it went into one of those false passages?

MR. WHEELER assumed that Mr. Hayes did not propose that electrolysis was suitable for every case of stricture, the procedure being in some to dilate, and in others to cut.

MR. HAYES replied:—Encouraged by his own success he wished to induce others to try electrolysis. In one of his cases there should have been a cutting operation had he not employed electrolysis, which could be done in the majority of cases, and, if ineffective, any other method, major or minor, could be afterwards adopted.

The Section then adjourned until November.

SUB-SECTION OF ANATOMY AND PHYSIOLOGY.

Chairman—FRANCIS T. HEUSTON, M.D., F.R.C.S.I.

Sub-Sectional Secretary—J. A. SCOTT, L.K.Q.C.P.

Closing Meeting, Thursday, May 13, 1886.

The CHAIRMAN presiding.

On the Morphology of the Intrinsic Muscles of the Little Finger, with some observations on the Ulnar Head of the Short Flexor of the Thumb. By H. ST.-JOHN BROOKS, B.A. & M.B. (Dub.), Demonstrator of Anatomy in the University of Dublin.

IN this paper the author has endeavoured to establish two points. The first and chief of these is, that the muscle of the human hand, known as “flexor brevis minimi digiti,” is not homologous with the muscle similarly named in the human foot, but is derived from the palmar layer of adductors. The second point is, that the *true* inner or deep head of the

flexor brevis pollicis is much more frequently suppressed than is generally supposed, and that, in these cases, it is functionally replaced by a part of the adductor pollicis.

After mentioning the labours of Bischoff, Henle, Young, and others, who have written on the morphology of these muscles, the author quotes the classification proposed by D. J. Cunningham of dividing the muscles of the manus and pes into three layers—(1) A palmar (or plantar) layer of *adductores*; (2) An intermediate layer of *flexores breves*; (3) A dorsal layer of *abductores*; and also the rule laid down by Ruge that the muscles in the sole of the foot which lie superficial to the deep branch of the external plantar nerve are *contraventes* or *adductores*. The morphology is worked out from this point of view, and Ruge's rule is extended to the hand; thus, in the hand, the deep branch of the ulnar nerve passes beneath the "flexor brevis minimi digiti," and through the "opponens minimi digiti;" the "flexor brevis," and the superficial part of the opponens, therefore, belong to the palmar layer, but the part of the opponens which lies beneath the nerve is the greatly reduced true flexor brevis. The wanderings of these members of the palmar layer to their present peculiar position are traced through a number of animals. The progressive shortening and diminution of the true flexor brevis minimi digiti are shown in the following series:—Cat, Marmoset, *Macacus*, *Cynocephalus*, *Colobus*, Man, Chimpanzee, Orang. "In the latter it appears to be absent altogether. In the first three we find the opponens (which lies superficial to the deep ulnar nerve) absent. In the others it shows a gradual increase in size, functionally replacing the deeper muscle. Again, in the cat the 'flexor brevis' (of human anatomy) is absent, but present in all the rest, and in the cat alone (in this series) we find the true flexor brevis (ulnar head) with a phalangeal insertion."

The paper is illustrated by eight figures drawn from the author's dissections.

Right Thoracic Duct, with root origin of the Right Subclavian Artery.

DR. DAVIS read a paper on the right thoracic duct, and the result of his observations on the root origin of the right subclavian artery. During the dissection of a female subject last winter session the author observed the following double irregularity:—The thoracic duct terminated on the right side in a manner similar to its usual way of ending on the left, and the right subclavian artery having arisen last in order from the arch of the aorta passed behind the trachea and œsophagus to its ordinary situation, presenting a well-marked dilatation at its commencement. This arrangement has been described by Fleischman, Todd, and Brown. The occurrence of this vascular irregularity has been shown by Rathke to be due to a persistence of the right posterior aortic root, the fourth right embryonic arterial arch which normally becomes the right sub-

clavian artery having been obliterated. Consequently in cases such as the above there is no right *recurrent* laryngeal nerve, that branch (inferior laryngeal) passing directly from the trunk of the pneumogastric to the larynx.

The CHAIRMAN said the presence of the right thoracic duct was rarely noted, as there were few cases recorded since that described by Leichmann in 1815. The second part of the communication was also very interesting—namely, the root origin of the right subclavian artery. There was one point about the persistence of the posterior aortic arch that would probably have struck those who saw the specimen brought forward in a previous session. In that case, instead of passing behind the trachea and the œsophagus, as it ordinarily did, it passed between the trachea and the œsophagus, causing a dilatation of the artery extending from its origin to where it passed between the two tubes. The exhibitor's explanation was that this was due to the artery passing between the trachea and the œsophagus instead of behind the two tubes, and being thus pressed on by the tubes. He had himself seen four specimens, and in each he noticed the enlargement at the commencement of the abnormal trunk, although in those cases it passed behind both tubes, as with the dilatation observable in the case now brought forward. His explanation of this was that it was due to the origin of the artery in the descending portion of the arch, and thus the current of blood having to pass, so to speak, against the current in the aorta, it was necessary that the artery should be dilated at its commencement to get sufficient pressure for the circulation into the upper extremity.

Hypertrophy of Bones of Cranium.

The CHAIRMAN exhibited an immensely thick cranium of a female, aged fifty-five. The specimen having been obtained in the dissecting room, he was unable to find out anything about her history. The scalp came off easily and seemed to be natural. There was a persistence of the parietal foramen. On examining the internal aspect of the skull, there was only one point of interest—namely, that there was a very tortuous and varicose condition of the left middle meningeal artery, which left a deep groove on the internal aspect of the skull when he removed it. The tortuous condition did not, however, pass higher than the parietal bone. The bone was very soft, but there was no evidence of syphilis. He did not know whether he should consider the case one of leoniasis ossium, as described by Virchow.

An Example of Double Ureter.

The CHAIRMAN submitted a specimen of double ureter. There was no pelvis to the ureter, and instead the infundibula evidently continued separately, forming two tubes, which united near the bladder.

Dissection of Plantar Arch from the Dorsal Aspect of the Foot.

DR. BROOKS exhibited a dissection of the plantar arch from the dorsal aspect of the foot. The specimen was interesting on account of the difficulty of showing the plantar arch from the sole of the foot. Not only was it frequently badly injected, but the deep hollow formed by the arch of the foot made it difficult to get a clear view of it. He removed the three middle metatarsal bones, exhibiting the arch from the dorsal aspect. It had the advantage of showing the communication of the dorsalis pedis artery with the plantar artery.

The Sub-Section then adjourned.

THE CO-ORDINATE ACTION OF THE PUPILLARY AND CILIARY MUSCLES.

MR. WALTER H. JESSOP communicated an interesting paper, founded on a long series of original investigations, dealing with the anatomy and physiology of the intra-ocular muscles, to the Royal Society, at its meeting on June 10th, 1886. Mr. Jessop stated that, in man, the pupil contained no dilator muscles; a few fibres, having a radial distribution, were occasionally present, but never extended the whole breadth of the pupil; he therefore concluded that dilatation of the pupil was due to the combined effect of the relaxation of the sphincter, and the elasticity of the posterior limiting membrane. He found that the motor nerves of the pupillary and ciliary muscles were derived from the third nerve, as has been generally recognised, but he also found that both these muscles received fibres from the fifth nerve, which inhibit the action of the muscles, thus producing dilatation of the pupil, and relaxation of accommodation. This was the only nervous apparatus in birds, in whom the intra-ocular muscles belonged, to the voluntary type; but in mammals, the pupil, in addition, received fibres from the cervical sympathetic, which have an inhibitory influence, producing dilatation of the pupil. He concluded, from his observations, that the fifth nerve was concerned in co-ordinating the pupillary and ciliary muscles in accommodation, while the cervical sympathetic was concerned in the light-reflex. With regard to the action of atropin, he found that it paralysed both the endings of the third nerve in the muscles, and the muscular fibres also; eserine acted as a stimulant directly on the muscular fibre, and, therefore, unless the muscular fibres were completely poisoned by a large dose of atropin, eserine was, by its direct action on the muscular fibres, able to produce some contraction of the muscles, which was, however, of a temporary nature.—*Brit. Med. Journ.*, July 3, 1886.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., Univ. Dubl.; F.K.Q.C.P.; F.R.Met. Soc.;
Diplomate in State Medicine and Ex-Scholar of Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, August 14, 1886.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

TOWNS	Weeks ending				TOWNS	Weeks ending			
	July 24.	July 31.	Aug. 7.	Aug. 14.		July 24.	July 31.	Aug. 7.	Aug. 14.
Armagh -	10·3	15·5	0·0	10·3	Limerick -	10·8	10·8	21·6	17·5
Belfast -	16·7	18·8	16·0	16·9	Lisburn -	24·2	24·2	24·2	4·8
Cork -	20·8	13·0	15·6	13·0	Londonderry	17·8	16·0	21·4	14·3
Drogheda	29·6	25·4	16·9	33·8	Lurgan -	25·7	5·1	20·5	15·4
Dublin -	20·4	17·0	17·3	20·5	Newry -	3·5	10·5	10·5	14·0
Dundalk -	4·4	17·5	17·5	34·9	Sligo -	0·0	4·8	4·8	4·8
Galway -	16·8	23·5	23·5	20·2	Waterford -	23·2	27·8	6·9	18·5
Kilkenny	8·5	16·9	21·1	29·6	Wexford -	34·2	4·3	12·8	12·8

In the week ending Saturday, July 24, the mortality in twenty-eight large English towns, including London (in which the rate was 21·6) was equal to an annual death-rate of 20·2 per 1,000 persons living. In Glasgow the rate was 23·5; and in Edinburgh it was 16·7.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 18·4 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·1 per 1,000, the rates varying from 0·0 in twelve of the districts to 5·1 in Lurgan; the 5 deaths from all causes registered in that district comprise 1 from typhus. The 71 deaths from all causes registered in Belfast comprise 1 from measles, 1 from scarlatina, 1 from enteric fever, and 3 from diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 211—121 boys and 90 girls—and the deaths to 142—79 males and 63 females.

The deaths represent an annual rate of mortality of 21·0 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 20·4 per 1,000.

Thirteen deaths from zymotic diseases were registered, being 4 under the number for the preceding week, and 12 under the average for the 29th week of the last ten years; they comprise 1 from scarlet fever (scarlatina), 2 from whooping-cough, 1 from cerebro-spinal fever, 4 from enteric fever, and 5 from diarrhoea.

Ten cases of scarlatina were admitted to hospital during the week, being 1 over the admissions for the preceding week; 13 scarlatina patients were discharged; 1 died; and 50 remained under treatment on Saturday, July 24, being 4 under the number in hospital on the previous Saturday.

One case of typhus was admitted to hospital during the week ended July 17, but no new case was admitted in the present week; 6 cases remained under treatment on Saturday, July 24, being equal to the number in hospital at the close of the preceding week.

Two cases of enteric fever were admitted to hospital during the week, being 1 under the admissions for the preceding week; 4 were discharged; and 11 remained under treatment on Saturday, July 24, being 2 under the number in hospital on the previous Saturday.

Sixteen deaths from diseases of the respiratory system were registered, being 2 over the number for the week ended July 17th, but 3 below the average for the corresponding week of the last ten years—they comprise 13 from bronchitis.

In the week ending Saturday, July 31, the mortality in twenty-eight large English towns, including London (in which the rate was 22·0), was equal to an average annual death-rate of 20·6 per 1,000 persons living. In Glasgow the rate was 20·3; and in Edinburgh it was 21·2. The average annual death-rate in the sixteen principal town districts of Ireland was 16·8 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·0 per 1,000, the rates varying from 0·0 in eleven of the districts to 5·1 in Lurgan; the only death registered in that district being 1 from typhus. The 80 deaths from all causes registered in Belfast comprise 1 from typhus, 2 from diphtheria, 2 from enteric fever, and 4 from diarrhoea.

In the Dublin Registration District the births registered during the week amounted to 207—99 boys and 108 girls—and the deaths to 117—50 males and 67 females.

The deaths represent an annual rate of mortality of 17·3 in every 1,000 of the estimated population; omitting the deaths of persons

admitted into public institutions from localities outside the district, the rate was 17·0 per 1,000.

Seven deaths from zymotic diseases were registered, being 6 under the number for the preceding week, and 15 under the average for the 30th week of the last 10 years—they comprise 2 from scarlet fever (scarlatina), 1 from typhus, 1 from diphtheria, 1 from diarrhœa, &c.

Seventeen cases of scarlatina were admitted to hospital during the week, being 7 over the admissions for the preceding week: 12 scarlatina patients were discharged, one died, and 54 remained under treatment on Saturday, being 4 over the number in hospital on Saturday, July 24.

While no new cases of typhus were admitted to hospital during the week ended July 24, 5 cases were admitted this week; 1 case was discharged, 1 died, and 9 cases remained under treatment on Saturday, being 3 over the number in hospital at the close of the preceding week.

Three cases of enteric fever were admitted to hospital during the week, being 1 over the admissions for the preceding week; 3 were discharged, and 11 remained under treatment on Saturday, being equal to the number in hospital on Saturday, July 24.

Nineteen deaths from diseases of the respiratory system were registered, being 3 over the number for the week ended July 24, but 2 below the average for the corresponding week of the last ten years—they comprise 10 from bronchitis, 1 from pneumonia, and 3 from croup.

In the week ending Saturday, August 7, the mortality in twenty-eight large English towns, including London (in which the rate was 20·4), was equal to an average annual death-rate of 19·9 per 1,000 persons living. In Glasgow the rate was 20·5; and in Edinburgh it was 19·2.

The average annual death-rate represented by the deaths registered last week in the sixteen principal town districts of Ireland was 16·6 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·8 per 1,000, the rates varying from 0·0 in Waterford, Galway, Newry, Kilkenny, Wexford, Sligo, Lisburn, and Armagh, to 5·1 in Lurgan; the 4 deaths from all causes registered in the last-named district comprising 1 from typhus (one death from this disease occurred in this district in each of the two preceding weeks). The 68 deaths from all causes registered in Belfast comprise 1 from scarlatina, 2 from whooping-cough, 1 from diphtheria, 2 from simple continued and ill-defined fever, and 2 from diarrhœa; and the 12 deaths in Londonderry comprise 2 from enteric fever.

In the Dublin Registration District the births registered during the week amounted to 180—93 boys and 87 girls—and the deaths to 119—57 males and 62 females.

The deaths represent an annual rate of mortality of 17·6 in every 1,000 of the estimated population; omitting the deaths of persons

admitted into public institutions from localities outside the district, the rate was 17·3 per 1,000.

Sixteen deaths from zymotic diseases were registered, being 9 over the number for the preceding week, but 10 under the average for the 31st week of the last ten years—they comprise 7 from scarlet fever (scarlatina), 1 from whooping-cough, 3 from diphtheria, 1 from ill-defined fever, 1 from enteric fever, 2 from diarrhœa, &c.

One case of measles was admitted to hospital during the week.

Seventeen cases of scarlatina were admitted to hospital, being equal to the admissions for the preceding week; 3 scarlatina patients were discharged, 1 died, and 67 remained under treatment on Saturday, being 13 over the number in hospital on Saturday, July 31.

Five cases of typhus were admitted to hospital during the week, being equal to the admissions for the preceding week. One patient was discharged, and 13 remained under treatment on Saturday, being 4 over the number in hospital at the close of the preceding week.

Seven cases of enteric fever were admitted to hospital during the week, being 4 over the admissions for the preceding week; 4 were discharged, 1 died, and 13 remained under treatment on Saturday, being 2 over the number in hospital on Saturday, July 31.

Ten deaths from diseases of the respiratory system were registered, being 9 under the number for the week ended July 31, and 10 below the average for the corresponding week of the last 10 years—they comprise 4 from bronchitis and 4 from pneumonia.

In the week ending Saturday, August 14, the mortality in twenty-eight large English towns, including London (in which the rate was 18·9), was equal to an average annual death-rate of 18·9 per 1,000 persons living. In Glasgow the rate was 19·0; and in Edinburgh it was 17·2. The average annual death-rate in the sixteen principal town districts of Ireland was 18·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·5 per 1,000, the rates varying from 0·0 in nine of the districts to 4·4 in Dundalk; the 8 deaths from all causes registered in that district comprise 1 from diarrhœa. The 72 deaths from all causes registered in Belfast comprise 1 from diphtheria, 1 from ill-defined fever, 1 from enteric fever, and 7 from diarrhœa; and the 20 deaths in Cork comprise 1 each from scarlatina, typhus, and diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 265—153 boys and 112 girls—and the deaths to 141—81 males and 60 females.

The deaths represent an annual rate of mortality of 20·8 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institution from localities outside the district, the rate was 20·5 per 1,000.

Ten deaths from zymotic diseases were registered, being 6 under the number for the preceding week, and 18 under the average for the 32nd week of the last ten years—they comprise 1 from measles, 1 from scarlet fever (scarlatina), 1 from cerebro-spinal fever, 1 from typhus, 1 from enteric fever, 4 from diarrhœa, &c.

Eighteen cases of scarlatina were admitted to hospital during the week, being 1 over the admissions for the preceding week; 5 scarlatina patients were discharged; 1 died; and 79 remained under treatment on Saturday, being 12 over the number in hospital on Saturday, August 7.

Five cases of typhus were admitted to hospital during the week, being equal to the admissions for the preceding week; 2 were discharged, and 16 remained under treatment on Saturday, being 3 over the number in hospital at the close of the preceding week.

Four cases of enteric fever were admitted to hospital during the week, being 3 under the admissions for the preceding week; 1 died, and 16 remained under treatment on Saturday, being 3 over the number in hospital on Saturday, August 7.

Twenty-six deaths from diseases of the respiratory system were registered, being 16 over the number for the week ended August 7, and 5 over the average for the corresponding week of the last ten years—they comprise 16 from bronchitis, 7 from pneumonia, and 2 from croup.

VITAL STATISTICS

For four Weeks ending Saturday, September 11, 1886.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

TOWNS	Weeks ending				TOWNS	Weeks ending			
	Aug. 21.	Aug. 28.	Sept. 4.	Sept. 11.		Aug. 21.	Aug. 28.	Sept. 4.	Sept. 11.
Armagh -	0·0	15·5	25·8	5·2	Limerick -	14·8	9·4	17·5	17·5
Belfast -	27·0	21·9	18·1	27·0	Lisburn -	19·3	0·0	14·5	4·8
Cork -	13·6	11·7	18·2	25·3	Londonderry	23·2	26·7	21·4	17·8
Drogheda	8·5	21·1	8·5	21·1	Lurgan -	25·7	15·4	30·8	15·4
Dublin -	21·4	17·7	26·1	25·5	Newry -	24·6	10·5	21·1	10·5
Dundalk -	21·8	26·2	21·8	17·5	Sligo -	9·6	9·6	19·2	9·6
Galway -	20·2	20·2	20·2	10·1	Waterford -	6·9	27·8	23·2	9·3
Kilkenny	4·2	25·4	38·1	8·5	Wexford -	25·7	8·6	0·0	8·6

In the week ending Saturday, August 21, the mortality in twenty-eight large English towns, including London (in which the rate was 17·9), was equal to an annual death-rate of 19·5 per 1,000 persons living. In Glasgow the rate was 20·5; and in Edinburgh it was 15·5.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 20·8 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·7 per 1,000, the rates varying from 0·0 in ten of the districts, to 5·1 in Lurgan; the 5 deaths from all causes registered in that district comprise 1 from whooping-cough. The 115 deaths from all causes registered in Belfast comprise 1 from scarlatina, 1 from whooping-cough, 1 from ill-defined fever, and 16 from diarrhœa; and the 21 deaths in Cork comprise 1 from scarlatina, and 1 from enteric fever.

In the Dublin Registration District the births registered during the week amounted to 154—82 boys and 72 girls—and the deaths to 148—74 males and 74 females.

The deaths represent an annual rate of mortality of 21·9 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 21·4 per 1,000.

Twenty-five deaths from zymotic diseases were registered, being 15 over the number for the preceding week, but 4 under the average for the corresponding week of the last ten years; they comprise 1 from measles, 4 from scarlatina, 2 from typhus, 1 each from whooping-cough, diphtheria, and ill-defined fever, 2 from enteric fever, 8 from diarrhœa, 1 from dysentery, &c.

Seventeen cases of scarlatina were admitted to hospital during the week, being 1 under the admissions for the preceding week; 15 scarlatina patients were discharged, and 81 remained under treatment on Saturday, being 2 over the number in hospital on Saturday, August 14.

Three cases of typhus were admitted to hospital, being 2 under the admissions for the preceding week; 2 patients were discharged during the week, 2 died, and 15 remained under treatment on Saturday, being 1 under the number in hospital at the close of the preceding week.

Six cases of enteric fever were admitted to hospital during the week, and 22 remained under treatment at its close, being 6 over the number in hospital on Saturday, August 14.

Twelve deaths from diseases of the respiratory system were registered, being 14 under the number for the preceding week, and 8 below the average for the 33rd week of the last ten years; they comprise 7 from bronchitis and 2 from pneumonia or inflammation of the lungs.

In the week ending Saturday, August 28, the mortality in twenty-eight large English towns, including London (in which the rate was 18·4), was equal to an average annual death-rate of 20·1 per 1,000 persons living. In Glasgow the rate was 18·6; and in Edinburgh it was 16·5. The average annual death-rate in the sixteen principal town districts of Ireland was 18·1 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·2 per 1,000, the rates varying from 0·0 in eight of the districts to 4·6 in Waterford; the 12 deaths registered from all causes in that district comprising 2 from diarrhœa. The 93 deaths from all causes in Belfast comprise 1 from scarlatina, 1 from whooping-cough, 1 from ill-defined fever, 2 from enteric fever, and 4 from diarrhœa. Among the 18 deaths in Cork are 1 from scarlatina, 1 from enteric fever, and 1 from diarrhœa; and the 15 deaths in Londonderry comprise 1 from whooping-cough and 1 from diphtheria.

In the Dublin Registration District the births registered during the week amounted to 190—101 boys and 89 girls—and the deaths to 123—59 males and 64 females.

The deaths represent an annual rate of mortality of 18·2 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 17·7 per 1,000.

Nineteen deaths from zymotic diseases were registered during the week, being 6 under the number for the preceding week, and 13 below the average for the 34th week of the last ten years; they comprise 3 from scarlet fever (scarlatina), 1 from whooping-cough, 3 from simple continued and ill-defined fever, 2 from enteric fever, 9 from diarrhœa, &c.

Twenty-three cases of scarlatina were admitted to hospital during the week, being 6 over the admissions for the preceding week; 14 scarlatina patients were discharged, and 90 remained under treatment on Saturday, being 6 over the number in hospital at the close of the preceding week.

Five cases of typhus were admitted to hospital, being 2 over the admissions for the preceding week; 3 patients were discharged, 2 died, and 15 remained under treatment on Saturday, being equal to the number in hospital on Saturday, August 21.

Five cases of enteric fever were admitted to hospital, being 1 under the admissions for the preceding week; 4 patients were discharged, 3 died, and 20 remained under treatment on Saturday, being 2 under the number in hospital at the close of the preceding week.

Fourteen deaths from diseases of the respiratory system were registered, being 2 over the number for the preceding week, but 4 under the average for the 34th week of the last ten years; they comprise 10 from bronchitis.

In the week ending Saturday, September 4, the mortality in twenty-eight large English towns, including London (in which the rate was 16·7), was equal to an average annual death-rate of 20·8 per 1,000 persons living. In Glasgow the rate was 20·8; and in Edinburgh it was 20·0.

The average annual death-rate represented by the deaths registered last week in the sixteen principal town districts of Ireland was 21·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·6 per 1,000, the rates varying from 0·0 in eight of the districts to 4·8 in Lisburn; the 3 deaths from all causes registered in the last-named district comprise 1 from diarrhœa. Among the 77 deaths from all causes in Belfast are 1 from whooping-cough, 1 from diphtheria, 4 from enteric fever, and 4 from diarrhœa; among the 28 deaths in Cork are 1 from enteric fever and 3 from diarrhœa; and the 10 deaths in Wexford comprise 2 from diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 164—86 boys and 78 girls—and the deaths to 177—82 males and 95 females.

The deaths represent an annual rate of mortality of 26·1 in every 1,000 of the estimated population; all the deaths in public institutions were of persons admitted from localities within the district.

Twenty-five deaths from zymotic diseases were registered during the week, being 6 over the number for the preceding week, but 11 under the average for the 35th week of the last ten years—they comprise 3 from typhus, 5 from enteric fever, 14 (including 13 of children under 5 years of age) from diarrhœa, &c.

Twenty-one cases of scarlatina were admitted to hospital during the week, being 2 under the admissions for the week ended 28th ultimo; 8 scarlatina patients were discharged; and 103 remained under treatment on Saturday, September 4, being 13 over the number in hospital at the close of the preceding week.

Three cases of typhus were admitted to hospital, being 2 under the admissions for the preceding week; 2 patients were discharged, 1 died, and 15 remained under treatment on Saturday, being equal to the number in hospital on Saturday, August 28.

Five cases of enteric fever were admitted to hospital, being equal to the admissions for the preceding week; 1 patient was discharged during the week, 1 died, and 23 remained under treatment on Saturday, being 3 over the number in hospital on Saturday, August 28.

Seventeen deaths from diseases of the respiratory system were registered, being 3 in excess of the number for the preceding week, but 4 under the average for the 35th week of the last ten years—they comprise 13 from bronchitis.

In the week ending Saturday, September 11, the mortality in twenty-eight large English towns, including London (in which the rate was 16·5), was equal to an average annual death-rate of 22·6 per 1,000 persons living. In Glasgow the rate was 22·6; and in Edinburgh it was 16·3.

The average annual death-rate in the sixteen principal town districts of Ireland was 22·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 4·5 per 1,000, the rates varying from 0·0 in ten of the districts to 6·8 in Belfast; the 115 deaths from all causes registered in that district comprising 2 from scarlatina, 1 from typhus, 1 from whooping-cough, 4 from diphtheria, 1 from ill-defined fever, 9 from enteric fever, and 11 from diarrhoea. One of the 4 deaths registered in Dundalk was caused by scarlatina.

In the Dublin Registration District the births registered during the week amounted to 187—103 boys and 84 girls—and the deaths to 175—92 males and 83 females.

The deaths represent an annual rate of mortality of 25·8 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 25·5 per 1,000.

Thirty-nine deaths from zymotic diseases were registered, being 3 in excess of the average for the corresponding week of the last ten years, and 14 over the number for the week ended September 4—they comprise 7 from scarlet fever (scarlatina), 1 from whooping-cough, 1 from ill-defined fever, 3 from enteric fever, 26 (including 20 of children under 5 years of age) from diarrhoea, &c.

Thirty-two cases of scarlatina were admitted to hospital during the week, being 11 over the admissions for the preceding week; 11 scarlatina patients were discharged, 2 died, and 122 remained under treatment on Saturday, being 19 over the number in hospital on Saturday, Sept. 4.

Four cases of typhus were admitted to hospital, being 1 over the admissions for the week ended September 4; 8 patients were discharged during the week, and 11 remained under treatment on Saturday, being 4 under the number in hospital at the close of the preceding week.

Six cases of enteric fever were admitted to hospital, against 5 admissions in the preceding week; 7 patients were discharged during the week, and 22, or 1 below the number in hospital on Saturday, September 4, remained under treatment on Saturday.

Seventeen deaths from diseases of the respiratory system were registered, being equal to the number for the preceding week, and 4 under the average for the 36th week of the last ten years—they comprise 9 from bronchitis, 2 from pneumonia or inflammation of the lungs, and 2 from croup.

METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N.,
Long. 6° 15' W., for the Month of August, 1886.*

Mean Height of Barometer,	-	-	-	29·964 inches.
Maximal Height of Barometer (on 19th, at 9 p.m.),	30·293	„		
Minimal Height of Barometer (on 13th, at 9 a.m.),	29·344	„		
Mean Dry-bulb Temperature,	-	-	-	59·7°.
Mean Wet-bulb Temperature,	-	-	-	56·7°.
Mean Dew-point Temperature,	-	-	-	54·2°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-			·423 inch.
Mean Humidity, - - - - -	-	-	-	82·5 per cent.
Highest Temperature in Shade (on 30th), - - -	-	-	-	75·6°.
Lowest Temperature in Shade (on 11th), - - -	-	-	-	47·0°.
Lowest Temperature on Grass (Radiation) (on 11th and 12th), - - - - -	-	-	-	42·0°.
Mean Amount of Cloud, - - - - -	-	-	-	61·9 per cent.
Rainfall (on 13 days), - - - - -	-	-	-	1·503 inches.
Greatest Daily Rainfall (on 21st), - - - - -	-	-	-	·366 inch.
General Directions of Wind, - - - - -	-	-	-	W., S.W.

Remarks.

August, 1886, although changeable and at times cool and dull, was for the most part favourable. The leading characteristics of the month were—prevalent westerly and south-westerly winds, often blowing freshly as areas of low atmospherical pressure skirted the extreme western shores of Europe in a north-easterly direction, while the barometer remained high and steady over the Continent; clouded skies, particularly in Ireland, and rather low temperature until towards the close, when the weather became very hot in France and England and warm in Ireland and Scotland. In Dublin the rainfall and rainy days were both below the average, and there was again a complete absence of thunderstorms, although sheet lightning was seen on one occasion—namely, the evening of the 26th.

In Dublin the mean temperature (60·4°) was half a degree above the average (59·9°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 59·7°. In the twenty-one years ending with 1885, August was coldest in 1881 (M. T. = 57·0°) and warmest in 1871 (M. T. = 62·0°). In 1885, the M. T. was only 57·1°; in the year 1879 (the cold year) it was 57·7°.

The mean height of the barometer was 29·964 inches, or 0·060 inch above the average value for August—namely, 29·904 inches. The mercury rose to 30·293 inches at 9 p.m. of the 19th, and fell to 29·344 inches at 9 a.m. of the 13th. The observed range of atmospherical pressure was, therefore, 0·949 inches—that is, slightly less than an inch. The mean temperature deduced from daily readings of the dry bulb

thermometer at 9 a.m. and 9 p.m. was 59.7° , or 0.9° below the value for July, 1886; that calculated by Kaemtz's formula—viz., $\text{min.} + (\text{max.} - \text{min.} \times .41) = \text{Mean Temp.}$ —from the means of the daily maxima and minima was 59.3° , or 0.4° above the average mean temperature for August, calculated in the same way, in the twenty years, 1865–84, inclusive (58.9°). The arithmetical mean of the maximal and minimal readings was 60.4° , compared with a twenty years' average of 59.9° . On the 30th the thermometer in the screen rose to 75.6° —wind S.W.; on the 11th the temperature fell to 47.0° —wind W.N.W. The minimum on the grass was 42.0° on the same date. The rainfall was 1.503 inches, distributed over 13 days. The average rainfall for August in the twenty years, 1865–84, inclusive, was 2.877 inches, and the average number of rainy days was 15.5. The rainfall and the rainy days, therefore, were both considerably below the average. In 1874 the rainfall in August was very large—4.946 inches on 18 days—and in 1868, 4.745 inches fell on only 13 days. On the other hand, in 1884, only .777 inch was measured on 8 days.

A solar halo was seen on the 3rd. The atmosphere was foggy on the 20th and 23rd. High winds were noted on as many as 11 days. Sheet lightning was seen on the evening of the 26th.

The weather during the first week was changeable, with a good deal of cloud and some showers—from which Dublin was almost entirely exempt—variable winds, at first low and finally high temperatures.

In the second week, conditions were very unsettled, the weather squally and showery, and temperature for the most part low for the time of year. Barometrical pressure was usually highest to the S. of the United Kingdom, and in the course of the period two depressions of considerable interest appeared in our area. The first of these—a system of gradually increasing intensity—appeared in the Bay of Biscay on the 9th, then travelled northeastwards to the north of Denmark, causing heavy rain in England. The second depression—one of diminishing intensity—came in over Ireland on the 12th; by the next morning the centre had reached Kerry and Cork, where the barometer was below 29.30 inches. It caused gales and rains in Ireland and severe thunderstorms in parts of England.

In the week ending Saturday, the 21st, the weather was again far from settled. The week commenced with S.W. winds and squally showery weather—the wind blowing a gale in the extreme W. and N. of the kingdom. On Tuesday, the 17th, the barometer rose considerably in the west, and cool N.W. winds set in, with local showers and at Cambridge a heavy thunderstorm. Pressure remained high throughout the week, but there were local irregularities, which produced unsettled weather. One of these shallow depressions formed over the Irish Sea on Saturday, the 21st, and caused a gloomy, wet day in the east of Ireland.

The weather of the fourth week (ending Saturday, 28th) was fine and dry over the greater part of England, but somewhat variable and cloudy in Ireland and Scotland. Atmospheric pressure was at first high, but a series of depressions soon began to pass in a north-easterly direction along our extreme western and northern coasts, notably on the 28th, when a S. gale occurred in the west of Ireland. With the advent of the southerly and south-westerly winds accompanying these Atlantic depressions, temperature rose decidedly and was generally rather above the average for the season. Over England the maxima frequently exceeded 75° , reaching 77° or 78° in the S.E. on the 22nd and 24th. In Dublin the highest reading for the week was 73.6° on the 26th.

During the last three days conditions were anticyclonic and quiet on the Continent and in England, where the heat became intense, but less settled in Ireland, as depressions continued to skirt our western seaboard. The maxima in London for these days were 80° , 87° , and 87° respectively; those in Dublin were 72.0° , 75.6° , and 71.6° .

The rainfall at Greystones, county Wicklow, during August, was 1.400 inches on only ten days.

PERISCOPE.

EXAMINATIONS FOR THE PUBLIC SERVICES.

THE following papers were set at the examination of candidates for her Majesty's Army, Indian and Naval Medical services, held in August, 1886:—*Anatomy and Physiology* (Sir Joseph Fayrer).—1. Describe the hip-joint, giving an account of that portion of each bone which enters into its formation, the ligaments and muscles with their respective uses, which are in immediate relation with the articulation, and the vessels and nerves with which it is supplied. 2. Describe the origin, distribution, and anatomical relations of the arteries and their branches which supply the hand with blood. 3. Describe the anatomical relations, connections, and structure of the small intestine, from the pylorus to the ileo-cæcal valve, with its blood-supply and innervation, giving an account also of the processes carried on in each portion of this section of the intestinal tube. 4. Describe the anatomical relations, connections, structure, and functions of the sphenopalatine ganglion. 5. Describe the anatomical relations, connections, structure, and functions of the prostate gland. *Surgery* (Mr. Pollock).—1. Describe the complications which may arise in cases of neglected stricture of the urethra, and the treatment to be adopted under the various conditions. What are the usual causes of death in such cases? 2. What are the causes of the condition known as "angular curvature" of the spine? Describe the various complications attendant on it, when affecting different parts of the vertebral

column, and the treatment of each. 3. A man is the subject of a recent and large inguinal hernia, without symptoms of strangulation; the surgeon has failed to reduce it, under the influence of an anæsthetic. Describe the treatment to be adopted under such circumstances; with any complications which may subsequently arise, and in what manner these should be dealt with. 4. Describe the symptoms and causes of senile gangrene, and its treatment. What are the characteristics of that form of gangrene which is associated with diabetes; and in what respect would its course and treatment differ from that of the former variety? 5. By what symptoms may acute inflammation of the synovial membrane of the knee-joint be diagnosed from an acute abscess of the bursa of the patella? What are the usual causes of the former, and what treatment should be adopted in its various stages? 6. What are the most common causes of necrosis of bone? In what respect does the acute differ from the chronic form, and what should be the treatment in each?

Medicine (Dr. Aitken).—1. A case for critical Analysis and Commentary:—

“A girl, aged 13, was admitted into hospital on April 8th, 1879. Five years previously she had an attack of acute rheumatism, followed by a relapse, from which she recovered, and remained perfectly well till the commencement of the illness for which she was admitted into hospital. Five or six weeks before admission she had suffered from dyspepsia and palpitation; and complained of stiffness of legs, followed by pain and swelling in the knees and ankles. These symptoms subsided in a week's time, but recurred after the lapse of another week, when she was attacked with pain and swelling in the right knee and left wrist. On admission, her face was pallid, but cheeks were slightly flushed. The right knee and left wrist joints were red, swollen, tender, and painful. There was no cardiac pain, nor, indeed, pain anywhere else. Pulse 96, regular and soft. The cardiac impulse was diffused, but the apex appeared to beat one inch outside the left nipple in the fifth interspace. The præ-cordial dulness measured at this level about two inches and a half across, and extended upwards to the upper level of the third rib. A loud blowing systolic murmur, transmitted mainly towards the axilla, and heard at the angle of the left scapula, was audible at the apex. The sounds at the base were natural, but there was accentuation of the second sound. The lungs were resonant and the breath-sounds normal. The tongue was moist, but coated; the appetite fair, and no thirst. The splenic dulness was normal. There were no signs of abdominal affection. The urine was of specific gravity—1022; clear, and without albumen. She slept well. The temperature, on admission, was 97·4° Fahrenheit, but it rose in the evening to 102·6°, at which time the pulse was 120. The following morning (April 9th) the rheumatic symptoms continued, the temperature remaining elevated, 100·4°, with a pulse of 120. By the morning of the 10th the inflammation of the joints had wholly

subsided, but temperature remained febrile, and she was weak and poorly. So she continued with little change down to the 15th, and on the morning of that day, although her temperature was only 98.8° , her pulse was 132, and her tongue coated. That evening her temperature rose to 103° . The next morning (April 16th) her temperature had fallen to 99° . The tongue was coated; the pulse 112, the respirations 26. There was no joint affection, and, in fact, nothing special to remark, except that she was quiet and apathetic, and remained weaker than one would have expected. In the evening there was slight return of pain and swelling in ankle and wrist. This continued, not very severe, until the evening of the 18th—the temperature on the previous evening having risen to 103.4° . From this time there was no return of rheumatism, but there was no improvement of her condition generally. She lay in bed, pallid, quiet, and uncomplaining—not acknowledging any pain or suffering, and generally answering that she was better—her appetite remaining fairly good, and her bowels acting naturally. She became, however, progressively thinner and weaker; and her temperature, which had much of the hectic character, presented remarkable fluctuations. It was almost always lower in the morning than the evening; at the former time, indeed, it was often normal or even subnormal; and at the latter time rose occasionally to 100° , but more often to 102° or 103° . The highest temperature (with the exception of that preceding death) was 103.8° . She never had rigors. About the end of April a rough murmur, increased by pressure, was audible at the base of the heart, but it soon disappeared, while the systolic murmur at the apex persisted without change. A trace of albumen was first noticed in the urine on 14th April. A small quantity was again noted on 22nd and 24th; on 25th there was none. Henceforth a small quantity of albumen was noted almost daily, the urine being for the most part scanty, clear, and of high specific gravity. On 6th June the spleen was found to be enlarged. Its dulness had an extent of four inches in the mid-axillary line, extending forwards, and, on deep inspiration, its lower extremity could be felt below the ribs. It was not tender at this time. On the 28th June it was first noted that, in addition to this enlargement, she had complained for a few days of severe pain in the splenic region—so severe as to cause her to cry out—and with tenderness. She continued thus, becoming weaker, thinner and paler, more and more apathetic, and latterly drowsy, until 14th July. At 8 a.m. of that day she seemed in her usual condition; but, at 11 a.m., she was found to be paralysed and speechless. She had lost completely the use of the right arm and leg; her mouth was drawn to the left, and the right side of the face was weaker than the other. There was no loss of common sensation, nor of sight in the right eye. The pupils were equal and contracted to light. She whined a little from time to time, but did not utter any articulate sound. Her evacuations were passed

unconsciously. She was not unconscious, but did not seem to understand what was said to her. At this time her temperature ranged from 98.2° to 98.8° ; her respirations were about 30, and pulse 114. She now gradually sank, with no abatement of symptoms, and appeared to suffer pain in the left leg. Swallowing and mastication were difficult. Urine removed by catheter was turbid; specific gravity 1032, and contained much albumen. Pulse, four days before death, ranged from 140 to 156; respirations 30 to 44; and temperature gradually rose from 100.2° , on 15th July, to 106.6° shortly before death, at 7 45 p.m. on 18th July. She perspired profusely during this period." Discuss fully the pathology and probable morbid anatomy of this case, explaining your views in detail regarding the origin, progress, and development of the symptoms and physical signs, and their mutual relationship, if any, with your conclusions as to diagnosis. 2. Give an account of the origin, symptoms, diagnosis, progress, and morbid anatomy of a hydatid tumour in the liver. 3. What are the morbid conditions to which the names of "Renal Colic" and "Gall-stone Colic" are respectively applied? Describe the symptoms of "Renal Colic" and its diagnosis from other disorders for which it may be mistaken. How would you treat a paroxysm of renal colic, and how manage the case after relief of the paroxysm? 4. What are the difficulties peculiar to labour when an arm or a shoulder is the presenting part? How would you manage such a case? 5. What are the actions, therapeutic uses and doses of the following preparations:—Liquor potassæ; Liquor Strychniæ; Extractum Belladonnæ; Extractum Hyoscyami; Tinctura Nucis Vomicae; Tinctura Rhei; Colocynthis Pulpa; Scammoniae Resina; Antimonium Tartaratum? *Chemistry* (Dr. Allman).—1. What are the most important proximal constituents of wheaten flour? Distinguish the nitrogenous from the non-nitrogenous. 2. What is ozone? By what means may its presence be detected? 3. What is cyanogen? Give its symbol. What part does it take in the composition of hydrocyanic acid? *Natural Sciences* (Dr. Allman).—*Zoology*: 1. What is Parthenogenesis? Mention one or more of the instances which have been adduced as cases of its occurrence in the animal kingdom. 2. What are the chief peculiarities in which the respiratory system of birds differs from that of mammals? 3. Refer to its class and order, respectively, the bat and the mole. *Botany*: 4. Refer to its natural order a plant with the following characters:—Leaves compound; corolla of five petals, papilionaceous; ovary superior, formed by a single carpel, dividing by dehiscence into two valves along a dorsal and a ventral line of suture; seeds without albumen. Adduce from the Pharmacopœia one or more examples of this order. 5. Describe the changes which occur in the pollen grain when it falls on the stigma. 6. Give an example of a flower rendered incomplete by the absence of one or more of its verticils. Mention the missing verticil or verticils in the

example cited. Physics : 7. What is meant by the Torricellian Vacuum ? What important implement depends for its action on the presence of this vacuum ? 8. What is meant by the specific heat of a body ? 9. Explain the phenomenon of the regular occurrence of land breeze and sea breeze.

THE ARMY MEDICAL STAFF.

The following is the official list of candidates who were successful for appointments as surgeons in the Medical Staff of Her Majesty's Army, at the Competitive Examination in London on the 9th and following days of August, 1886 :—

Order of Merit	Names	Marks	Order of Merit	Names	Marks
1	Morgan, F. J. . . .	3,180	22	Gray, W. L. . . .	2,380
2	Hale, C. H. . . .	3,050	23	Salmon, L. E. A. . .	2,370
3	Burnside, E. A. . . .	2,895	24	Holt, M. P. . . .	2,360
4	Poole, W. C. . . .	2,870	25	Stall, D. . . .	2,360
5	Horrocks, W. H. . . .	2,830	26	Morgan, J. C. . . .	2,340
6	Raymond, G. . . .	2,765	27	Weir, C. J. . . .	2,330
7	Thurston, H. C. . . .	2,750	28	Hinde, A. B. . . .	2,325
8	Reily, A. Y. . . .	2,660	29	Bullen, J. W. . . .	2,320
9	Scott, B. H. . . .	2,655	30	Inniss, B. J. . . .	2,310
10	Wade, G. A. . . .	2,655	31	Penton, R. H. . . .	2,310
11	Hore, H. St. G. . . .	2,650	32	Thacker, R. C. . . .	2,300
12	Watson, A. C. . . .	2,620	33	Pocock, H. J. . . .	2,290
13	Julian, O'R. A. . . .	2,610	34	Young, C. A. . . .	2,265
14	Corcoran, E. . . .	2,560	35	O'Brien, M. . . .	2,240
15	Cockerill, J. W. . . .	2,540	36	Hassard, E. M. . . .	2,235
16	M'Culloch, J. C. . . .	2,500	37	Hilliard, G. . . .	2,235
17	Macdonald, S. . . .	2,495	38	Murphy, W. N. . . .	2,200
18	Ritchie, J. . . .	2,490	39	Elliott, C. R. . . .	2,150
19	Gray, E. W. . . .	2,470	40	Clark, F. S. . . .	2,110
20	Minniece, J. . . .	2,460	41	Sinclair, F. C. . . .	2,090
21	Browne, E. G. . . .	2,380	—	—	—

THE TREATMENT OF RINGWORM.

DR. SAERLIS recommends oil of turpentine for the cure of ringworm of the scalp (*Medicina Contemporanea*). The hair should be closely cut over the affected part, and for a short distance around, and then turpentine is to be liberally applied, and rubbed in well with the finger. This is allowed to remain for five minutes, and is then washed off with carbolic soap, and afterwards with hot water, and the patch is then painted with dilute tincture of iodine, or with a two-per-cent. solution of iodine in turpentine. The application is to be made once or twice a day, and is not painful, though it causes a slight smarting. The writer asserts that he has cured, in ten days, by this method, cases of ringworm that have resisted all other modes of treatment.—*N. Y. Med. Record*.

A CONTRIBUTION TO THE PATHOLOGY OF HEMIANOPSIA OF CEREBRAL ORIGIN (CORTEX-HEMIANOPSIA).

IN the *Journal of Nervous and Mental Disease*, Vol. XIII., No. 1, January, 1886, Dr. E. C. Seguin reports a case of a man, aged forty-six, who suffered from mitral valve disease. On December 5th he suddenly became blind in the left half of the field of vision on both sides. This condition persisted until the following May, when he died. There was no motor paralysis, or disturbance of sensation, other than the hemianopsia. The diagnosis was made of embolism of a branch of the posterior cerebral artery supplying the meso-caudal part of the right occipital lobe. After death a patch of old softening was found, involving the basal part of the cuneus, the fourth and fifth temporal gyri, and a part of the gyrus hippocampi. The remaining gyri were normal. From a consideration of forty-five recorded cases of cerebral hemianopsia, which are classified and tabulated by Dr. Seguin, he draws the following conclusions:—"1. Lateral hemianopsia always indicates an intracranial lesion on the opposite side from the dark fields. 2. Lateral hemianopsia, with pupillary immobility, optic neuritis, or atrophy, especially if joined with symptoms of basal disease, is due to lesion of one optic tract, or of the primary optic centres on one side. This diagnosis may be further strengthened, and rendered quite certain, by seeking for, and finding, one-sided pupillary reaction, as recently suggested by Wernicke. He ingeniously predicts that only one lateral half of each iris will be found to contract by the reflex effect of light when one optic tract has been interrupted. He designates this as 'hemiopic pupillary reaction.' 3. Lateral hemianopsia, or sector-like defects of the same geometric order, with hemianæsthesia and choreiform or ataxic movements of one half of the body, without marked hemiplegia, is probably due to lesion of the caudo-lateral part of the thalamus, or of the caudal division of the internal capsule. 4. Lateral hemianopsia, with complete hemiplegia

(spastic after a few weeks), and hemianæsthesia, is probably caused by an extensive lesion of the internal capsule in its knee and caudal part. 5. Lateral hemianopsia, with typical hemiplegia (spastic after a few weeks), aphasia if the right side be paralysed, and with little or no anæsthesia, is quite certainly due to an extensive superficial lesion in the area supplied by the middle cerebral artery; we would expect to find (as in a case quoted from Westphal) softening of the motor zone and of the gyri lying at the extremity of the fissure of Sylvius—viz., the inferior parietal lobule, the supra-marginal gyrus, and the gyrus angularis. Embolism, or thrombosis of the Sylvian artery, would be the most likely pathological cause of the softening. 6. Lateral hemianopsia, with moderate loss of power in one half of the body, especially if associated with impairment of muscular sense, would probably be due to a lesion of the inferior parietal lobule and gyrus angularis, with their subjacent white substance, penetrating deeply enough to sever or compress the optic fasciculus on its way onward to the visual centre. 7. Lateral hemianopsia, without motor or common sensory symptoms. This symptom alone is due, I believe, from the convincing evidence afforded by cases 28, 29, 41, and 45, to lesion of the current only, or of it and the gray matter immediately surrounding it in the mesal surface of the occipital lobe, in the hemisphere opposite to the dark half fields. Most surgical cases come at once, or after convalescence, within this rule, or in No. 6. In all cases coming under rules 3 to 7, inclusive, the pupils react normally, and rarely does the ophthalmoscope show any lesion of the optic nerves, except, of course, in some tumour cases, when neuro-retinitis may be expected." This valuable paper is illustrated with seven figures. The classical, but certainly erroneous, scheme of the course of the optic fibres proposed by Charcot is discarded, and a new one given more in accordance with our present knowledge. A criticism of the views of Ferrier and Munk, and an ingenious attempt to reconcile their discrepancies, will also be found in this work.

J. M. P.

ON THE PRESENCE OF HÆMATOPORPHYRIN IN THE INTEGUMENT OF CERTAIN INVERTEBATES.

DR. MACMUNN finds hæmatoporphyrin in the integument of certain starfish and many kinds of slugs, as well as in the earth-worm. He finds also that this pigment is identical with the colouring matter obtained by Professor Moseley from some hydroids, and from many corals and actiniæ dredged from great depths during the "Challenger" expedition, and which he has named polyperyrin. In none of the animals examined by MacMunn and Moseley, with the exception of lumbricus, did hæmoglobin pre-exist.—*Journal of Physiology*, VII., 3.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

A New Hypodermic Pocket Case.

WE have received from Messrs. Burroughs, Wellcome, and Co., of Snow Hill, London, E.C., a new hypodermic pocket case with a syringe made of solid silver. The pocket case is much smaller than any heretofore produced, and has space for from 10 to 15 varieties of the now well-known hypodermic tabloids in a leather cover of the following dimensions:— $3\frac{1}{4}'' \times 2\frac{1}{2}'' \times \frac{3}{4}''$. This case being of morocco, and mostly sewn, is thought to be better adapted for use in tropical climates than those which are lined with velvet and pasted together. Through the courtesy of the firm we are enabled to present our readers with an illustration of this bijou case.



The syringe is the smallest in the market. It is made of solid silver throughout, and is, therefore, non-corrodible. It is enclosed also in a solid silver case which protects perfectly, and this prevents the drying of the piston packing. It appears to be an instrument which may be relied on in cases of emergency when other syringes are so likely to be found

broken, or with dried up packing or rusty needles. The cap of the case answers admirably for a mortar in which to crush and dissolve the tabloids, while the piston rod and handle answer for a pestle. A civil surgeon in India has informed Messrs. Burroughs, Wellcome, and Co., that he has used one of these syringes in that country continuously for more than two years without any mishap whatever.

Inside the flap is fastened a small sheet of silicated paper convenient for memoranda, from which pencil marks can be readily erased. This part will be so constructed as to be suitable for carrying professional cards.

As the hypodermic tabloids are eminently suited for administration by the mouth, owing to their smallness and ready solubility, it is suggested that the new hypodermic pocket case will supply the profession with a good variety of concentrated medicines ready for immediate use, which can be carried conveniently in the waistcoat pocket; and while also answering the purpose of an ordinary card case, will occupy but very little more room.

The prices of the component parts separately are as follows:—12 tubes of tabloids, 12s.; case, 4s.; solid silver syringe, 10s. 6d.—in all, 26s. 6d.

The price of the case complete with syringe and 12 tubes of tabloids is twenty-five shillings.

SAPONIN.

ACCORDING to Dr. Kobert (*Pharm. Post*, Oct. 24, 1151), most commercial “saponin” consists of a mixture of at least four organic and some inorganic substances. The pure saponin ($C_{13}H_{30}O_{10}$) is said to be perfectly inert, and not the source of the toxic property attributed to commercial saponin. A second constituent is lactosin, a carbohydrate discovered by A. Meyer, and also inert. The third and fourth constituents, which Dr. Kobert has named quillaic acid^a and sapotoxin, are very poisonous, and to them is due the acrid taste of saponin. The acid and its neutral salts are so toxic as to be fatal to dogs when administered subcutaneously in doses of 0.5 gram per kilogram of body weight, or by the mouth in four times that proportion. Analysis gave figures corresponding with the formula attributed to saponin, and since quillaic acid loses its toxic properties through boiling it with baryta solution to dryness a few times, Dr. Kobert thinks saponin may be an inactive modification of quillaic acid.—*Pharm. Journ.*, Oct. 31, 1885.

^a Because it can be prepared from quillai bark.—ED. PERISCOPE.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. XI.—*Pharyngocele and Dilatation of Pharynx, with Existing Diverticulum at Lower Portion of Pharynx lying Posterior to the Œsophagus, cured by Pharyngotomy, being the first case of the kind recorded.* By W. I. WHEELER, M.D. and Master of Surgery, Univ. Dubl.; F.R.C.S.; M.K.Q.C.P.; Past President, R.C.S.I.; Surgeon to the City of Dublin Hospital.^a

HAVING already had the pleasure of bringing before the Surgical Society of Ireland the operation of pharyngotomy for the removal of a foreign body, and a second case before the Academy of Medicine for the removal of a tumour of the pharynx, both successfully treated by me, I have now the gratification of detailing another most interesting and instructive case, the first of the kind recorded:—

CASE.—Captain E. E., aged fifty-seven years. Antecedent history good. During recent years he suffered from frequently recurring attacks of tonsillitis, bronchitis, and laryngitis, whereupon the submaxillary glands became temporarily enlarged and painful. In 1880 he had had a severe attack of erysipelas, and in 1884 he suffered from hepatic dropsy. His voice was of a stentorian character, and during his military career he prided himself on being able, by his own word of command, to drill an entire brigade. Subsequently to his retirement from the service he

^a Read before the Surgical Section of the Academy of Medicine in Ireland, Friday, February 19, 1886.

still frequently exerted his voice to its extreme limit. During the autumn of 1884 he first complained of the present affection, which caused him the following train of symptoms:—He was unable to remain lying down for any length of time, in the same position, without feeling a sensation of choking, as though his throat were impeded by some large mass. So great did the distress become that he was obliged to exchange his bed for an upright chair. In rising from the horizontal to the perpendicular position he was subject to intense fits of coughing, in which (using his own phraseology) “his eyes were starting out of his head and his brain bursting.” During a night he would expectorate about a saucerful of “clear sticky fluid, with occasional froth.” Talking was always followed by coughing, and was very indistinct, the sound resembling that of the voice of one whose vocal chords had been eroded, so much so that at times he became unintelligible, and, if the effort to speak was to much extent persisted in, the result became a hoarse whisper. To swallow food, except in small particles, was extremely difficult, and even then they stuck in his throat only to be subsequently coughed up and helped into his mouth by manual pressure, tasting exactly as when swallowed. Fluids also were partaken of with occasionally the same result. Captain E. observed a small tumour on the right side in the submaxillary space in front of the sterno-mastoid, pushing forward, which, though occasionally diminishing in size, always to some extent remained. It was at about this period that he sought advice. The tumour was pronounced to be a cyst, and was treated accordingly; however, it gradually increased, growing forwards and upwards over the ramus of the jaw and extending to below the thyroid cartilage. At times, audibly to himself, air would escape with a gurgling sound into the pharynx, and the tumour, when percussed, had a tympanitic sound, such as that produced by percussing a coil of the large intestine; its anterior edge was very thin, and appeared to be next the skin; the entire tumour was freely movable on the deep tissues, as was the skin covering it. Flexing the neck and drawing the tumour backwards produced a marked improvement in the voice, which relapsed into its normal hoarseness upon the tumour being allowed to resume its natural position. The first time I saw Captain E. was in consultation with Dr. Mayne, on the 9th of January, 1885. The tumour then appeared as already described. On 8th June of the same year I again saw him. During the interval the tumour had increased somewhat in size. I passed a sound into the dilated upper portion, and examined him by electric light with the laryngoscope, which showed the larynx to be in an extreme state of congestion and the right vocal chord appeared paralysed. On the 13th June he came under treatment in preparation for an operation advised by me, and which, on the 13th June, was undertaken in the following manner:—The patient was placed upon a suitable table and anæsthetised



MR. WHEELER

ON PHARYNGOCOLE AND DILATATION OF PHARYNX WITH EXISTING DIVERTICULUM
AT LOWER PORTION OF PHARYNX, LYING POSTERIOR TO THE ŒSOPHAGUS.
CURED BY OPERATION.

by Dr. Duffey; I was further assisted by Drs. Mayne, Harley, and Middleton. I may here pay a trifling tribute to the revered memory of my much-esteemed and greatly-lamented friend, the late Mr. Tufnell, by testifying to the excellent assistance so capably rendered to me by him upon this occasion as well as upon many others. I made an incision from approximately the centre of the ramus of the lower jaw, extending it downwards and outwards in the line of the platysma to well below the thyroid cartilage. The platysma, along with the other muscular tissue, was carefully dissected off the tumour, which was then seen to be very thin; upon opening its most prominent part a gush of air escaped, and the tumour immediately fell back and collapsed. The opening was cautiously enlarged and then retracted, by which means the pharyngeal cavity was exposed. The most prominent portion of the tumour was precisely upon the site of the sinus pyriformis—hence at this juncture of the operation the arytenoid cartilages and vocal chords became visible, also the epiglottis and epiglottic folds. The action of the larynx was beautiful to look at, as one had the opportunity of doing now by the unaided eye—the contraction of the chords each time the patient uttered any sound, the approximation of the cartilages, and the opening and closing of the rima glottidis, revealed a mechanism and routine as perfect as it was interesting, beautiful, and instructive. The foramen, through which the most prominent part of the tumour bulged, appeared to have the following boundaries:—Above, superior constrictor; inferior, middle constrictor; posterior, stylo-pharyngeus; and anterior, palato-pharyngeus or salpingo-pharyngeus. The mucous membrane of the pharynx was continuous with that of the tumour, which at this point might be styled *aneurysma herniosa* of the pharynx.

Simultaneously with opening the tumour the patient's voice returned almost to its normal condition. I cut a large piece out of the pharynx, extending from the ramus of the jaw to the lowest part of the dilatation, at which point I suddenly discovered the existence of a pouch filled with particles of food, situated at the inferior portion of the pharynx and lying posteriorly to the œsophagus, measuring approximately the dimensions of a walnut, for the purpose of eradicating which it was necessary to draw up the pharynx at its lowest point, where it joins the œsophagus. This having been accomplished, the pharynx was now brought together by sutures; subsequently the muscular tissues and platysma; finally the skin, but leaving a few openings for drainage.

The patient's successful recovery was uninterrupted. His temperature remained almost normal, rising at night to 99.8° . He was fed by a spoon with gruel, beef-tea, &c., and remarked that the relief obtained by him had continued without intermission from the time of the operation. Nineteen of the sutures were gradually discharged, both through the mouth and externally; some of the deeper ones, however, remained for a

length of time, the last being discharged in January, 1886. The patient's health has since been excellent, his voice clear, and his power of deglutition normal.

My impression with regard to the primary cause of the tumour is that Capt. E.'s habit of so violently exerting his voice originally led to the dilatation of the entire pharynx; this would result in certain muscular fibres, originally mere anatomical items, becoming in some places pathological sphincters. The tonsillitic and bronchitic attacks (chronic) had relaxed the mucous membrane, which remained flabby and weak. Some more than ordinary violent effort had probably then produced a slight protrusion of the mucous membrane, at what subsequently proved the upper portion of the tumour, and which the same causes daily augmented, such as the entrance of food and drink, &c., which by acting as irritants would cause excessive secretion from the mucous membrane; this being retained gave further cause for dilatation and also produced the symptoms above described. The secretion, "thick, sticky," &c., may have been a pseudo-saliva of parotid nature, which, being an unremitting secretion, would have accumulated in the cyst continuously.

The distress experienced in assuming the horizontal position on the right side was produced by the pressure of the large mass of tumour upon the structures of the neck, and that experienced upon the left side resulted from the constant flow of a little secretion across the rima glottidis. In rising to the perpendicular, the natural tension of all cervical muscles caused a sudden gush of fluid and consequent coughing, then, by each violent cough, the tumour would become further distended; hence, not alone the ordinary retardation produced by coughing, but also the increased pressure of the now enlarged tumour upon the right side, gave additional rise to cerebral stasis (veins in vicinity of tumour very numerous).

The constant inability to speak articulately resulted from the mucous membrane being stretched by the tumour, by which the right arytenoid cartilage and chord would be drawn towards the right, as though the right chord were paralysed. Proof of this was obtained in the improved phonation observable when the tumour was drawn backwards and the neck relaxed.

The incessant cough was caused by irritation of the superior laryngeal nerve, resulting from its being stretched—on the right—

over the tumour in an outward and downward direction. A special tendency on the part of those fibres of the pneumogastric supplying the pharyngeal plexus to be acted upon by this irritation, would induce spasm of the muscles forming the sphincter of the opening already described. Increased difficulty of speaking during phonation was caused by greater dilatation, the result of repeated attempts to speak louder.

The arytenoideus proprius, arytenoideus posticus, and lateralis, were not paralysed from the fact of the inferior laryngeal nerve not being affected, and their natural contraction may, by drawing the tissues forwards and inwards, have tended further to close the opening by a valve-like movement.

I have been induced by two reasons to bring my notes of this case before the Academy—viz., the paucity of literature upon the subject already in our possession, and also the statements made upon high authority to the effect that these pressure diverticula of the pharynx are incurable. Indeed, hitherto, I have been unable to discover one single similar case for which operation has *been even attempted*. Von Ziemssen has recorded twenty-seven autopsies in cases of pressure diverticula, and remarks that “the radical cure of diverticula from without is, at the present time, one of our vain wishes.” He adds—“Yet we should hope that this operation, conducted on Lister’s plan, might, at some future day, be performed without danger.” I did not adopt Lister’s plan. These diverticula and dilatations have been divided into two classes—pressure diverticula and traction diverticula; the existence of the latter in the pharynx at any time is denied, and is pronounced to belong exclusively to the region of the œsophagus. Pressure diverticula are of rare enough occurrence to be seldom if ever seen; yet from them ensues the worst form of dysphagia, and finally death by inanition. They are, almost without exception, situated at the lower part of the pharynx, and at the superior portion of the œsophagus, sometimes being lateral and sometimes in the median line. Very rarely more than one actual diverticulum exists, the smaller excrescences being in reality but protrusions of the pharynx; the larger ones are more correctly described as pouches hanging from the pharynx between the spine and œsophagus. The walls of these pouches are thick and firm, and their covering was thought to be identical with that of the pharynx; but since muscular tissue in them, if as usual not totally absent, exists only at the neck of the pouch, it is therefore evident that such sacs are formed

by the mucous membrane bulging between the muscular fibres—hence the application of the term pharyngocele.

The meagre amount of information extant upon this subject may be judged from the fact that, since 1764, only thirty-four cases altogether have been collected from all European sources, and of these seven are only hypothetical, never having been proven by operation or autopsy.

In all cases the age of the patient was that of adolescence, except in one, where seventeen is given as the age at which symptoms first showed themselves. In the authenticated cases the first symptoms declared themselves as follows:—

17	years	-	-	-	1 case
35	,,	-	-	-	1 ,,
40-50	,,	-	-	-	3 ,,
50-60	,,	-	-	-	4 ,,
66	,,	-	-	-	1 ,, (Zenker)

The above authority accounts for the immunity from this disease of the female sex, by stating that their larynx is smaller, scarcely ever ossified, and that their pharyngeal cavities are not subjected to the same strains as those of men.

All cases recorded were of a protracted character, and death took place in them all at an advanced age, except in those cases where intercurrent disease caused fatal termination. The following is given by von Ziemssen as the ages at which death occurred:—

40-50	years	-	-	-	2 cases
50-60	,,	-	-	-	3 ,,
60-70	,,	-	-	-	8 ,,
70-80	,,	-	-	-	5 ,,
In 80th	year	-	-	-	1 ,,

Watson describes a case in which the opening existed as a large slit behind the posterior pillar of the fauces, and the sac extended downwards in the neck as far as the manubrium sterni.

Heller mentions the case of a clergyman which in some respects resembles the present one:—History of chronic laryngitis. &c., loud speaking, and a previous healthy life, comparatively rapid growth of the tumour, and a train of symptoms, all closely agreeing with the case under present consideration.

A few cases have been ascribed to congenital malformations; they are compared in those cases to the pouch often observable in the ileum, formed by the remains of the vitello-intestinal duct;

but the analogy is incorrect, as no case is yet recorded where a complete muscular coat surrounded the sac, except as a sphincter at its base. If these sacs were possessed of a complete muscular coat they would empty themselves at each contraction, and not remain full, as we generally observe. One case only points to any possibility of congenital origin—viz., one, recorded by Kurz, occurring in a child three years old; but his description at once places it in the category of “congenital ectasiæ,” instead of among true pharyngoceles. In all cases recorded, stress has been laid on the presence of an adventitious sphincter surrounding the neck of the sac.

Concerning the ætiology of such pouches, the majority of statements must be hypothetical, because patients, as a rule, fail to assign any cause, yet some cases are carefully described, and reliable accounts given for the probable reason of their developments.

“A limited region or spot on the wall of the pharynx loses its power of resistance against the pressure exercised upon it in each act of swallowing. The morsel of food or fluid swallowed, compressed by the rest of the pharyngeal muscles, will press most forcibly against that spot which most readily yields. The mucous membrane begins to bulge slightly, and with this constant and frequently repeated act gradually protrudes more and more, until finally a sac is formed in which food may remain at other times than during deglutition; then from the weight the sac will be distended and dragged downwards, and so it is developed into one of those sacs which hang down behind the œsophagus, between it and the vertebral column, and which must, when distended, press the œsophagus forward, so that the cavity of the diverticulum is in direct continuation with the pharynx, and thus all ingesta fall into the diverticulum, while the compressed œsophagus, whose opening into the pharynx is thrown out of the axis, receives no more food unless with great difficulty by means of artificial manipulation, manual compression of the diverticulum, or the introduction of a sound (von Ziemssen). Various causes may influence a spot in the pharynx to give way and become dilated. Some small foreign body may be retained in the pharynx and separate the muscular fibres, through which the mucous membrane will protrude.”

In one case the diverticulum appears to have been originated by a cherry-stone, in another by a crust of bread, in a third by a

chicken-bone, and again by the rupture of the pharyngeal muscles from violence. Should there be a stenosis at the upper portion of the œsophagus it would facilitate the formation of a diverticulum. The reason for these pressure diverticula being situated at the base of the pharynx on its posterior surface is easily understood, for here the muscular structures are very thin, running in parallel lines, while above they run obliquely and are freely interlaced. This affection is much more frequent in males than in females, and is undoubtedly a disease of middle and old age. The symptoms in the latter stage of this disease will be a tumour of the neck in the œsophageal region, either at one or at both sides, out of which food can be forced by pressure, when it will return into the mouth, and, consequently, the enlargement will temporarily subside. Introduce a sound; it will enter the pouch without being able to pass beyond it, and the greatest dexterity will be required in the transmission of the instrument beyond the verticulum into the stomach.

Traction diverticula belong more to the œsophagus, and are, therefore, outside the range of my present subject. Before concluding, however, I may remark that they are usually originated by some inflammatory swelling of the parts adjacent to the œsophagus; in consequence of contraction following such inflammation, a portion of the œsophageal wall will be drawn outwards most frequently at a point corresponding to the division of the trachea. That the best treatment for diverticula of the pharynx is that which I adopted in the present case, and which I have just described, there can be but little doubt. The most suitable treatment for traction diverticula of the œsophagus is, however, quite a different matter, and is a subject upon which time forbids my dwelling to any extent. Beside the exclusive use of fluids, and the introduction of food through a tube, electric irritation of the œsophageal muscles is recommended. In my opinion, the proper treatment would be gastrostomy or jejunostomy, provided further experience of that operation proved its superiority.

The subjoined Plates (published by permission) have been most satisfactorily and accurately executed by Messrs. Forster & Co., Dublin.



MR. WHEELER
ON PHARYNGOCELE AND DILATATION OF PHARYNX WITH EXISTING DIVERTICULUM
AT LOWER PORTION OF PHARYNX, LYING POSTERIOR TO THE ŒSOPHAGUS.
AFTER OPERATION.

ART. XII.—*Notes on Famine Diseases.* By ALEXANDER PORTER, M.D., F.R.C.S.I., M.R.I.A.; Surgeon-Major I.M.S.; Fellow of Madras University; and Professor of Medical Jurisprudence, Madras Medical College.

[Continued from page 285.]

III. ALVINE FLUX WITH DIPHTHERITIC EFFUSION.

THE third division comprises all cases of bowel complaint with an effusion of lymph on some part of the intestinal mucous tract. These number 151, being 43·5 per cent. of the total cases of alvine flux. The percentages they bear to the totals under each head are:—

			Diarrhœa.	Dysentery.	Totals.
Men, -	-	-	52·5	46·2	48·8
Women, -	-	-	47·1	30·6	40·3
Children, -	-	-	20·7	48·5	35·5
Total			-	44·76	42·3
					43·5

Disease complained of. Dysentery was the disease complained of on admission by 41 of the 81 men, by 15 of the 48 women, and by 16 of the 22 children. All the rest complained of diarrhœa, except four who were admitted for debility, two for dropsy, and one each for fever and abscess; and one man was brought in dead, it was said, from cholera. All these are included under diarrhœa. The disease often appeared as a complication of some other complaint, setting in as “watery gripes,” and proving fatal in a day or two.

Duration of illness. Eight men died on the day of admission, after an average illness of a fortnight; eight days in hospital and twelve days’ sickness before admission were the averages for the 81 men. One was two months in hospital, and one said he had been five months ill on admission. The average stay in hospital for the women was seven days, the duration of illness before admission averaging eight days. One woman was a month in hospital, and one said she had been two months ill on admission. The average stay in hospital for the children was five days, the average duration of illness as reported on admission being nearly thirteen days. Two died on the day of admission, one was as long as sixteen days in hospital, and one was said to have been two months ill on admission.

The characters of the stools noted were as follows:—

			Diarrhoea.	Dysentery.
Character of stools.	Thin feculence,	- -	6 ^a	3 ^b
	Grumous pult,	- -	1 ^c	1
	Whitish serum,	- -	6 ^d	4 ^e
	Do. with shreds or			
	lumps of lymph,	-	3	7 ^f
	Green fluid,	- -	3 ^g	8 ^h
	Buff do.,	- -	6 ⁱ	5 ^j
	Brown serum,	- -	4 ^k	4 ^l
	Ochrey serum,	- -	4 ^m	7
	Bloody mucus,	- -	2	2
	Watery, passed into bed,		5	6

The small intestine was empty in 29 cases of diarrhoea and in 35 of dysentery; 56 were adults and 8 were children, being more than a third of each. In the remainder the contents were as follows:—

	Diarrhoea.	Dysentery.
Pale buff to mud-coloured		
fluid, - - -	11 ⁿ	4 ^o
Yellow to ochrey do., -	12 ^p	10 ^q
Green fluid, - - -	8	5 ^r
Lumbrici, - - -	34	36
Brown fluid, - - -	4	2 ^s
Bloody do., - - -	4 ^t	10 ^u
Mucus in quantity, -	9 ^v	7 ^w
Gas, - - -	2	3

Lumbrici. Lumbrici to the number of 148 were found in 25 women, being an average of nearly 6 each, and of 166 in 38 men, giving an average of nearly 4 each; as many as 35 were found in one woman, while 16 was the largest number found in one man. In 7 children 24 were found, the greatest number in one case being 9. Distension of the gut with gas were all cases of children except two.

^a Two frothy, one pultaceous. ^b One pultaceous. ^c Slimy. ^d Undigested food in two, scybala in one. ^e One bloody, one foetid. ^f Three bloody. ^g Mucus in one. ^h One bloody, two pultaceous, one variegated, sediment in two. ⁱ One frothy, blood in two. ^j One slimy. ^k Scybala in one, one offensive. ^l Scybala in one, one slimy. ^m One frothy. ⁿ Two pigmented. ^o One pultaceous. ^p Two pultaceous, one oily looking. ^q Four pultaceous, one slimy. ^r Two pultaceous. ^s One black. ^t One pultaceous. ^u Two like secondary cholera stools, two with shreds of lymph. ^v Two pigmented, five green, one reddish. ^w Two pigmented, five green, one pale.

Contents of large intestine. The large intestine was empty in the majority of cases—viz., in about four-fifths of the men, nine-tenths of the women, and ten-elevenths of the children. In one child five lumbrici had reached this part of the gut from the small intestine, where there were still nine found, and in a man two, and in a woman a dozen thread worms were found in the cæcum. In the remainder the contents were as follows:—

Thread worms.

			Diarrhæa.	Dysentery.
Formed fæces,	-	-	0	3
Yellow fluid,	-	-	6 ^a	2 ^b
Mud-coloured do.	-	-	2 ^c	4 ^d
Green do.,	-	-	1	1
Choleraic do.,	-	-	1	0
Scybala,	-	-	2	4

It is worthy of note that in all three cases where the formed fæces were found there was a pseudo-membrane lining at least the lower end of the gut, and in one case there was considerable congestion present besides.

Walls of small intestine. The walls of the small intestine were, as a rule, thin. In one man the lower end of the ileum was wide and sacculated, and in another, and in a woman, the lumen was so small all through as hardly to admit the blade of the scissors. In one woman there was a diverticulum an inch long in the lower end of the ileum, and in another there were two fatty tumours of the size of peas situated in the duodenum.

The state of injection of the mucous coat was as follows:—

			Diarrhœa.	Dysentery.
Healthy looking,	-	-	8	6
Anæmic,	-	-	17	24
Hyperæmic,	-	-	52	44
			—	—
Total,	-	-	77	74

It was healthy looking in eight cases of diarrhœa and in eight of dysentery, two of these children. Among the anæmic cases the intestinal coats were quite milk-white in one case of diarrhœa in a child, and in four cases of dysentery, two of them children.

^a Three feculent. ^b One feculent pult. ^c One blackish. ^d Two blackish, one pul-taceous, one slimy.

Before analysing the cases of hyperæmia it may be as well to glance at the state of some Peyer's patches and solitary glands. On the three or four lowest Peyer's patches there was a reddish lymphic effusion in two cases of diarrhœa and two of dysentery, three of them children. The patches were conspicuously prominent in three cases of dysentery and one of diarrhœa, a child; and in another case of diarrhœa there was prominence due to submucous ecchymosis. In one case of diarrhœa and two of dysentery, the latter children, some of the lower patches were injected bright red, and in three cases of diarrhœa and one of dysentery they were ulcerated, the ulcers being tubercular in one of each. The "shaven beard" appearance was noted in one case of dysentery, and the cribriform appearance in one case of diarrhœa and in one of dysentery, both children. Small pigmented cicatrices were found in the lowest four patches in a case of dysentery.

Some solitary glands were prominent and white in congested mucous membrane in three cases of diarrhœa and two of dysentery, and under similar conditions they were prominent and brown red in one case of diarrhœa and one of dysentery. There was infarction by tubercle of a gland or two in two cases of dysentery, and tubercular ulceration of some half dozen glands in a case of diarrhœa, all in latent phthisis. In a case of diarrhœa there were concretions found in three solitary glands at the upper end of the ileum, and one had been discharged, leaving an ulcer-like cavity.

Injection of the mucous coat to a greater or less extent was found in 51 cases of diarrhœa and 43 of dysentery, 8 of the latter being children. The ratios per cent. to the total diphtheritic cases are as follows:—

				Diarrhœa.	Dysentery.
<i>Hyperæmia.</i>	Men,	-	-	88.2	58
	Women,	-	-	57.5	66.6
	Children,	-	-	0	50
				<hr/> 66.2	<hr/> 58.1

The congestion was continuous all through the length of the small intestine in fully a third of these, was confined to the lower end in less than one half, was confined to blotches or lengths of the mucous tract in fully a seventh, and was confined to the upper end in the remaining five cases, as follows:—

			Diarrhœa.	Dysentery.
All through,	-	-	16	17
Lower end,	-	-	22	20
Upper end,	-	-	4	1
In lengths,	-	-	9	5

The character of the injection, where this extended the whole length of the gut, was as follows:—

			Diarrhœa.	Dysentery.
<i>All through.</i>	Deep red,	-	5	5
	Pink,	-	2	5
	Reddish,	-	4	5
	Livid,	-	3	1
	Pale livid,	-	2	1

Deep red in ten cases—of these it was paler in the ileum in two of diarrhœa and one of dysentery, and deeper red in the ileum in one case of diarrhœa, and with ecchymotic-like congestion there in transverse lines in two others, and there was markedly deeper injection in parts in two cases of dysentery. Of the seven cases of pink injection, the lower end of the gut was paler in three of dysentery and in one of diarrhœa, and there was purple injection in lengths in the other case of diarrhœa. Of the nine cases of reddish injection, the lower end of the gut was deeper red in one case of dysentery and paler in another, and in a case of diarrhœa; in one case of diarrhœa there were livid mottles in places, and in another there were livid puncta along the free border and a livid piece at the lower end of the ileum. Of the four cases of livid injection, the lower end of the gut was noted paler livid in one case of diarrhœa and in the case of dysentery. And of the three cases of pale livid injection, the lividity was deeper in the jejunum in one case of diarrhœa and in the ileum in the other. So there are many exceptions to apparently the rule that the injection is deeper in the jejunum in diarrhœa and in the ileum in dysentery.

Where the injection was confined to the lower end of the gut its character was livid to deep purple, and it extended from the valve upwards for from a few inches to as many feet, and was mostly lined by a pseudo-membrane, in nine cases of diarrhœa and six of dysentery; and in four cases of diarrhœa and one of dysentery the injection began not at the valve but some little distance above it.

				Diarrhœa.	Dysentery.
<i>Ileum.</i>	Purple,	-	-	13	7
	Red,	-	-	3	6
	Livid in lengths,		-	6	7

It was red to pale livid or pink for a variable distance from the valve upwards in 3 cases of diarrhœa and 6 of dysentery. And it was livid in lengths, often deepest at a foot or so above the valve, in 6 cases of diarrhœa, and less frequently so in 7 cases of dysentery.

Jejunum. In two of the four cases of diarrhœa in which the jejunum was congested there were also the remains of injection with a lymph effusion just above the valve, and in the case of dysentery the congestion was of some valvulæ conniventes and of four inches of the mucous coat about its middle.

In lengths. The injection was reddish to livid and confined to lengths or patches, especially ecchymotic-like in valvulæ conniventes, in 5 cases of dysentery and 9 of diarrhœa; in 3 of the latter there was purple lividity with effusion in the lower end of the ileum. The other appearances found in the mucous coat of the small intestine were as follows:—

				Diarrhœa.	Dysentery.
<i>Pseudo-membrane.</i>	Diphtheritic effusion,	-		30	28
	Thickening,	-	-	8	10
	Œdema,	-	-	8	5
	Ecchymosis,	-	-	6	10
	Pigmentation,	-	-	25	19
	Ulcers,	-	-	7	4
	Cicatrices,	-	-	1	1

The diphtheritic effusion was present in this part of the intestinal mucous tract in considerably over one-third of the cases under consideration, as shown by the percentages, as follows:—

				Diarrhœa.	Dysentery.
Men,	-	-	-	38·8	32·5
Women,	-	-	-	42·4	46·6
Children,	-	-	-	33·3	42·7
				<hr/> 38·9	<hr/> 37·8

The effusion was a grey, thin pseudo-membrane, extending from the valve upwards on a more or less deeply-purple injected mucous coat, in 14 cases of diarrhœa and in 12 of dysentery; in one of

each the membrane was so thin as to appear as a white cloud only. In three cases of dysentery the subjacent injection was only reddish to dull pink, and in three cases of diarrhœa and in four of dysentery there was no injection at all.

The pseudo-membrane, with subjacent purple injection, began some little distance above the valve in five cases of diarrhœa and in one of dysentery. It was confined to congested rugæ in the lower end of the ileum in one case of diarrhœa and one of dysentery ; and to congested spots or blotches in one case of diarrhœa and three of dysentery ; and in three cases of diarrhœa and in two of dysentery it was in the form of a red effusion on two or three of Peyer's patches near the valve ; in three cases of diarrhœa and two of dysentery the effusion was into the mucous membrane, and of a green or purple colour.

Thickening. In 7 cases of diarrhœa and in 9 of dysentery the thickening accompanied diphtheritic effusion, but in the eighth case of diarrhœa there was thickening in rugæ at four feet above the valve, with livid congestion without effusion, and in the tenth case of dysentery there was simply ulceration of thickened rugæ situated near the valve.

There was only swelling of the mucous coat in one case of dysentery, and in one case of diarrhœa this was confined to the lower end of the ileum, and accompanied by congestion.

Œdema. The œdema was slight in one case of diarrhœa and in one of dysentery, and was very considerable in six cases of diarrhœa and in one of dysentery ; in three of the former it was most marked in the jejunum, especially in the valvulæ conniventes, and was accompanied by congestion in two of these, and in one it was greatest at the ends of the gut. In two cases of dysentery the œdema was confined to the jejunum.

Ecchymosis. Ecchymosis beneath or into the mucous coat was present in 3 children and 13 adults. In the children it consisted of small circular flat spots beneath the mucous coat, undergoing absorption and situated in the jejunum, in one case of diarrhœa and two of dysentery. In the adults the spots were small and numerous in the valvulæ conniventes in one case of diarrhœa ; they were few, circular and flat, situated about the middle of the gut in another, and they were prominent near the duodenum in a third case of diarrhœa. There was one prominent spot in the ileum in a case of dysentery, and two prominent spots in Peyer's patches in a case of diarrhœa. It consisted of a flat

spot or two in the jejunum in three cases of dysentery, and of numerous small circular flat spots here, and two prominent spots in the duodenum in a fourth case. In two cases of dysentery there were two prominent spots, half an inch in diameter, in the jejunum; these communicated with the gut by small openings in one of them.

The effusion was into the mucous membrane, forming almost a continuous streak along the free border of the gut, made up of distinct points or patches, in one case of diarrhœa; and this was confined to some *valvulæ conniventes* in one case of dysentery.

Pigmentation was general, giving the mucous coat a *Pigmentation.* more or less deep-slatey coloration, which was less deep in the ileum in 20 cases of diarrhœa and 15 of dysentery. In one of the former the *valvulæ conniventes* were quite black, and in one of the latter they were quite white. In one case of diarrhœa the pigmentation was deepest in the ileum. In two cases of diarrhœa (one a child) and in one of dysentery it was confined to the jejunum, and in two cases of diarrhœa and three of dysentery it was present in some *valvulæ conniventes* only.

Tubercular ulcers were found in four cases of diarrhœa and in two of dysentery in latent phthisis: these encircled the gut, were *Ulcers.* girdle ulcers in only one case, were along the length of the gut in two, and were circular in the remaining three; all had evidently their origin in infarcted Peyer's or solitary glands. In three cases of diarrhœa and one of dysentery ulceration was beginning near the valve in spots of diphtheritic effusion, and in one case of dysentery there was ulceration close above the valve of thickened *rugæ* without effusion on the surface. In one case of diarrhœa some solitary glands were distended by concretions, and one had discharged its contents, leaving an ulcer-like cavity. In one of the above cases of diarrhœa, beginning in effusion, there was a scar near the ulcers close to the valve, and in one *Cicatrices.* case of dysentery the three lowest Peyer's patches had pigmented cicatricial depressions, the other patches being swollen, and the whole membrane around being deeply injected.

There was narrowing of the calibre of the large gut *Large Intestine.* from cicatrices in the descending colon, in a woman who died from dysentery, with tubular sloughing in the cæcum and ascending colon, and narrowing in the sigmoid flexure from cicatrices in a man who died from "diarrhœa," and

had scars all through the colon. The lesions found in the large intestines may be grouped as follows :—

			Diarrhœa.	Dysentery.
Hyperæmia,	-	-	57	47
Thickening,	-	-	40	44
Ulcers,	-	-	32	31
Cicatrices,	-	-	4	7
Swelling,	-	-	15	10
Œdema,	-	-	7	5
Diphtheritic effusion,	-	-	68	63
Pigmentation,	-	-	15	17
Ecchymosis,	-	-	0	1
Cyst forms,	-	-	1	1

There was more or less injection of the mucous coat in 57 cases of diarrhœa and in 47 of dysentery, comprising about two-thirds of the adults and three-fourths of the children. The ratio per cent. to the total diphtheritic cases are—

				Diarrhœa.	Dysentery.
<i>Hyperæmia.</i>	Men,	-	-	86·8	60·4
	Women,	-	-	60·6	60
	Children,	-	-	66·6	75
				<hr/> 74·0	<hr/> 63·5

The congestion extended through the whole lengths of the gut in 32 cases of diarrhœa and 35 of dysentery; nine of the latter were children.

				Diarrhœa.	Dysentery.
<i>All through.</i>	All through,	-	-	32	35
	Upper end,	-	-	8	4
	Lower end,	-	-	8	1
	Both ends,	-	-	2	0
	Blotches or rugæ,	-	-	7	7
				<hr/> 57	<hr/> 47

The character of the injection was reddish or pale livid in 9 cases of diarrhœa and in 8 of dysentery, red or livid in 14 cases of diarrhœa and 17 of dysentery, and deep red to purple in 9 cases of diarrhœa and 10 of dysentery. It was noted to be deeper in parts in several cases, and to be less in the lower end, especially in the sigmoid flexure, in six cases of diarrhœa and in five of dysentery,

and to be deeper livid in both ends in one case of diarrhœa, and to be less purple in both ends in one case of dysentery.

The congestion was considerable and confined to the

Upper end. cæcum or ascending colon, in eight cases of diarrhœa and four of dysentery, one a child in each; and it was

Lower end. confined to the lower end in eight cases of diarrhœa and one of dysentery. In one case of diarrhœa the

Both ends. livid injection was confined to both ends, and in another there was slight lividity in the upper end from injection of the venous radicles, while in the descending colon there was some redness from injection of the mouths of the mucous follicles. The congestion was confined to blotches,

Blotches. rugæ, or mottles in seven cases of diarrhœa and seven of dysentery, two children in each group. There

Thickening. was thickening of the intestinal coats in 40 cases of diarrhœa and 44 of dysentery, comprising fully half of the adults and nearly three-fourths of the children.

			Diarrhœa.	Dysentery.
All through,	-	-	29	33
Lower end, -	-	-	7	9
Upper end, -	-	-	2	0
Spots, -	-	-	2	2
			—	—
			40	44

This was localised in about a quarter of these, and was accompanied by congestion in little over a half—viz., in 22 cases of diarrhœa and 24 of dysentery.

The thickening was through the whole length of the gut in 29 cases of diarrhœa, two of them children, and 33 of dysentery, eight of them children.

			Diarrhœa.	Dysentery.
<i>All through.</i>	Anæmic,	- - -	16	14
	Hyperæmic, -	- - -	13	19
			—	—
			29	33

The amount of thickening present was very little in six cases of diarrhœa and four of dysentery, and was very great in seven cases of diarrhœa and seven of dysentery, one a child. It was noted

Lower end. greater in the lower end in two cases of diarrhœa and two of dysentery. It was confined to the lower end in seven cases of diarrhœa and nine of dysentery; two of the former and four of the latter were children.

				Diarrhœa.	Dysentery.
Anæmic,	-	-	-	1	5
Hyperæmic,	-	-	-	6	4
				<hr/>	<hr/>
				7	9

In two of these the mouths of the mucous follicles were pale and patulous conspicuously on the thickened part, which was rose-coloured.

The thickening was confined to the upper end, and accompanied by congestion in two cases of diarrhœa, and it was confined to spots or blotches in two cases of diarrhœa and two of dysentery, unaccompanied by congestion in one of each.

There was swelling of the mucous coat in 15 cases of diarrhœa and 10 of dysentery, with congestion in nearly all :

				Diarrhœa.	Dysentery.
Anæmic,	-	-	-	3	1
Hyperæmic,	-	-	-	12	9
				<hr/>	<hr/>
				15	10

The swelling was through the whole length of the gut in 11 cases of diarrhœa and 9 of dysentery, three of them children, and was accompanied by congestion in all except one of each. It was confined to the lower end of the gut, and was unaccompanied by congestion in two cases of diarrhœa, and to the upper end, and was accompanied by congestion in one case of diarrhœa and one of dysentery, the former a child; and in a case of dysentery it was confined to both ends, and accompanied by congestion.

There was more or less marked œdema of the mucous coat all through in six cases of diarrhœa and four of dysentery, unaccompanied by congestion in four of the former and one of the latter.

				Diarrhœa.	Dysentery.
Anæmic,	-	-	-	5	1
Hyperæmic,	-	-	-	2	4
				<hr/>	<hr/>
				7	5

The œdema was confined to the lower end of the gut in one case of diarrhœa and one of dysentery, the latter accompanied by congestion.

Diphtheritic effusion. Diphtheritic effusion was found in 68 cases of diarrhœa and 63 of dysentery, comprising about seven-eighths of the adults, and all the children except one.

The ratios per cent. are as follow :—

		Diarrhœa.	Dysentery.	Total.
Men,	-	81·6	83·7	82·7
Women,	-	93·7	80	89·6
Children,	-	100	93·7	95·9
		<hr/>	<hr/>	<hr/>
Total,	-	88·3	85	86·7

In other words, and speaking accurately, in 13·3 per cent. of the diphtheritic cases the effusion was found in the small intestine without there being any in the large; and this subtracted from 38·3, the total for the small gut before shown, leaves 25 per cent. in which effusion was found in both intestines together.

The effusion was generally in the form of a pseudo-membrane, lining more or less of the mucous coat; but it was also seen as soft lymph, lying free or as shreds protruding from the mouths of the mucous follicles, and occasionally it appeared as a distinctly granular margin to the mouths of follicles. It was present in the lower end of the gut in nearly the whole of these cases, as well as higher up in a good many. Its distribution is given more in detail as follows :—

			Diarrhœa.	Dysentery.
All through,	-	-	35	37
Lower end,	-	-	24	23
Upper end,	-	-	8	1
Both ends,	-	-	1	2
			<hr/>	<hr/>
			68	63

It was in the form of a pseudo-membrane, lining the whole length of the mucous tract, in 28 cases of diarrhœa and 30 of dysentery. The state of the mucous coat as to thickening and congestion was—

				Diarrhœa.	Dysentery.
<i>All through.</i>	Congestion,	-	-	7	10
	Thickening,	-	-	6	6
	Both,	-	-	13	12
	Neither,	-	-	2	2
				<hr/>	<hr/>
				28	30

Pseudo-membrane.

There was no thickening in fully a third of these cases and no congestion in fully a fourth; both were present in less than a half, and in about six per cent. there was neither congestion nor thickening found. In these cases the membrane was generally of some thickness, especially at the lower end of the gut, often of a curdy appearance and in rugæ sometimes, or coloured. In some cases it had been removed in parts by ulceration or had separated in blotches; in one case it had been thrown off the whole length of the sigmoid flexure, forming a tube lying free in its cavity.

Blotches.

Effusion all through the gut in blotches or patches, but not forming a continuous membrane, was found in seven cases of diarrhœa and six of dysentery. The state of the mucous coat in these cases as to congestion and thickening was as follows:—

			Diarrhœa.	Dysentery.
Congestion, -	-	-	5	4
Thickening, -	-	-	0	2
Both, -	-	-	1	0
Neither, -	-	-	1	0
			<hr/> 7	<hr/> 6

The effusion was pseudo-membrane on patches in one case of diarrhœa and two of dysentery; in the rest it was soft lymph on spots or in furrows; in some manifestly attached by processes running into the mucous follicles; in others granular around their mouths, or forming coloured blotches from effusion into the mucous membrane.

Lower end.

Where the effusion was confined to the lower end the state of the mucous coat as to thickening and congestion was as follows:—

			Diarrhœa.	Dysentery.
Congestion, -	-	-	10	15
Thickening, -	-	-	5	4
Both, -	-	-	5	11
Neither, -	-	-	4	3
			<hr/> 24	<hr/> 23

Both thickening and congestion were present in only about a third of these cases, no thickening in nearly a half, and no congestion in fully a third, and in about a seventh there was neither congestion

nor thickening found. The character of the effusion was soft lymph only in five cases of diarrhœa and two of dysentery, in the rest it was pseudo-membrane lining more or less of the lower end of the gut, often with soft lymph higher up. Where the effusion was confined to the upper end of the gut the state as to congestion and thickening was—

Upper end.

			Diarrhœa.	Dysentery.
Congestion, -	-	-	4	0
Thickening, -	-	-	1	1
Both, -	-	-	2	0
Neither, -	-	-	1	0
			<hr/> 8	<hr/> 1

The nature of the effusion was soft lymph in three cases of diarrhœa, shreds and patches in two and in one of dysentery, and a thin pseudo-membrane lining this part in the other three cases of diarrhœa.

Where the effusion was confined to the two ends it was a grey curdy pseudo-membrane in one case of diarrhœa and one of dysentery, and it was specks of lymph in the other case of dysentery. There was no thickening in these cases, but there was congestion present in both cases of dysentery.

There was ulceration or sloughing of the mucous and sometimes other coats in 32 cases of diarrhœa and 31 of dysentery. In the majority of these the diphtheritic effusion was evidently a complication of an ordinary bowel complaint with ulceration, and had nothing to do with the breach of surface of the intestinal mucous tract, but occasionally, especially in the cases of sloughing, it was otherwise. The lesions found in these cases may be grouped as follows:—

Ulcers.

			Diarrhœa.	Dysentery.
Abrasions, -	-	-	6	7
Circular ulcers, -	-	-	14	8
Irregular do, -	-	-	5	7
Sloughing, -	-	-	7	9
			<hr/> 32	<hr/> 31

In six cases of diarrhœa, three of them children, and in seven of dysentery, four of them children, there was abrasion or erosion of the pseudo-membrane, extending in most cases to the mucous

Circular. coat in the form of circular or irregular ulcers, which were sometimes even pigmented. There were circular ulcers of the character already described in 14 cases of diarrhœa and 8 of dysentery; in five of these there was no effusion, in six no congestion, and in eleven no thickening:—

				Diarrhœa.	Dysentery.
Effusion,	-	-	-	11	6
Congestion,	-	-	-	9	7
Thickening,	-	-	-	7	4

The ulcers were confined to the upper end of the gut in four cases of diarrhœa and one of dysentery; to the lower end in five cases of diarrhœa, one a child, and two of dysentery; to both ends in one of each, and they were found all through the length of the gut in four cases of diarrhœa and three of dysentery; two of the latter were children and in the third there was a large slough in the cæcum.

Irregular. There were irregularly-shaped ulcers, often cicatrices also, and mostly confined to the lower end of the gut in five cases of diarrhœa and seven of dysentery, two of them children; in two of these there was no effusion, in three no congestion, and in four no thickening:—

				Diarrhœa.	Dysentery.
Effusion,	-	-	-	4	6
Congestion,	-	-	-	5	4
Thickening,	-	-	-	3	5

In one case of dysentery there was a livid-edged ulcer with thickening extending along the transverse colon for nearly its whole length; above this there were cicatrices and below it increased thickening with effusion of a rough pale green pseudo-membrane. There was sloughing, with usually much hypertrophy of the coats, but seldom any congestion, in seven cases of diarrhœa and in nine of dysentery, besides the one already mentioned under circular ulcers.

Sloughing. In many cases the whole mucous tract was one mass of slough, but in only one instance had perforation actually occurred. This was the case of a young man who had been admitted complaining of dysentery of ten days' standing, and who died two days afterwards. The whole mucous membrane of the colon was found deeply red, injected, and lined in the lower end by a pseudo-membrane, which, having become

Perforation.

detached, formed a separate tube; higher up the lymph was soft and in patches. In the extreme end of the *cul-de-sac* of the cæcum was an opening leading to a cavity which extended up behind the gut for two inches, and was prevented from communicating with the peritoneal cavity by a tough, white, lymph effusion, which glued some folds of the ileum to the cæcum and right flank. The redness of the peritoneum extended only to the small gut and over to the left flank, but there was no fluid in its cavity, nor was there loss of lustre of its surface. In two cases of diarrhœa sloughing had gone so far that perforation of the gut occurred on removal, and in one case of diarrhœa and one of dysentery sufficient peritonitis had been set up to glue the appendices epiploicæ to the peritoneum, and in another case of dysentery the sloughing had extended to the peritoneum in the sigmoid flexure without further effect, and in one case of dysentery the slough formed a separate tube in the cæcum and ascending colon.

Cicatrices. Cicatrices were found in four cases of diarrhœa and seven of dysentery, two of these children. They were confined to the upper end of the gut in one case of diarrhœa and one of dysentery, to the middle in one case of dysentery, and to the lower end in one case of diarrhœa and five of dysentery, two of these children. In two cases of diarrhœa they were through the whole length of the gut; in one of these and in a case of dysentery partial constriction of the gut had been induced by the cicatrices, as already mentioned.

Pigmentation. Pigmentation of the mucous coat, giving it a more or less deep-slatey coloration all through, was found in six cases of diarrhœa and five of dysentery; this was confined to the lower end of the gut in one case of diarrhœa, and to spots and lines there in one case of dysentery, both children, and to the upper end in two cases of diarrhœa. It was confined to cicatrices and ulcers in five cases of diarrhœa, two of them children, and in 11 cases of dysentery, five of them children; in one of the former, and in another case of diarrhœa already included, the mouths of some mucous follicles were black.

Ecchymosis. Sub-mucous ecchymosis was found in only one case of dysentery; this consisted of a flat blotch in the transverse colon, about two inches long by one broad, and of a raised circular spot in the descending colon, about an inch and a half in diameter, and punctated in the centre.

“Cyst forms” were noted in only one case of diarrhoea and one of dysentery. In several cases the mouths of the mucous follicles were observed to be red or black, or pale and patulous; some, again, had shreds of lymph protruding from them, while in others the lymph formed a granular margin to their openings.

ODOUR OF BRANDY.

M. ORDONNEAU has lately made some investigations concerning the cause of the peculiar odour of brandy made from wine. That of brandy prepared from other materials, such as maize, beet and potatoes, is characterised by what is known to French experts as the “odeur de trois-six,” which is not present in wine brandy. This odour has been traced by M. Ordonneau to the presence of isobutylic alcohol. In genuine cognac brandy the predominating flavour is due to the presence of normal butylic alcohol which is present to the extent of 218·60 grams per hectolitre. The production of this alcohol appears to be due to the presence of *Saccharomyces ellipsoideus* in the grape juice, since it can be developed from the ordinary refinery liquid by fermenting it with the sediment of wine. The isobutylic alcohol, on the other hand, appears to be a secondary product of the fermentation with beer yeast. It might therefore be possible in future to obtain brandy of good flavour by fermenting malt liquor with the *Saccharomyces ellipsoideus*. The other flavouring product to which brandy owes its peculiar bouquet appears to be a terpene boiling at 178° C., the products of the oxidation of which characterise old brandy. The author gives an analysis of cognac brandy, from which it appears that amylic and normal propylic alcohol and acetic ether form the principal ingredients, besides ethylic alcohol, although propionic, butyric, caproic and œnanthic ethers, pyridin, and probably collidin are present in minute quantities (*Comptes Rendus*, cii., p. 217).—*Ph. Journ.*, Feb. 27, 1886.

ACADEMY OF MEDICINE OF PARIS.

DR. BATEMAN, of Norwich, author of works on Aphasia and on Darwinism, has been elected a Foreign Corresponding Member of this Academy. Amongst the physicians upon whom this distinction has been conferred during the last quarter of a century have been the late Sir Dominic Corrigan, Bart., Physician to the Queen in Ireland; the late Professor Bennett, F.R.S., of Edinburgh; and Dr. West and Sir Joseph Fayrer, of London.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Memorials of the Craft of Surgery in England. From Materials compiled by JOHN FLINT SOUTH, twice President of the Royal College of Surgeons of England, and Surgeon to St. Thomas's Hospital. Edited by D'ARCY POWER, M.A. Oxon., F.R.C.S. Eng. With Introduction by SIR JAMES PAGET, Bart., F.R.S., Sergeant-Surgeon to Her Majesty the Queen. London, Paris, New York, and Melbourne: Cassell & Co. 1886. 8vo. Pp. 442.

WE are indebted to Mr. Power for skilful utilisation of the information which Mr. South had collected upon the embryonic stages of the English College of Surgeons. With Mr. South's materials and on Mr. South's foundation, (for two chapters of his projected work were completed when he died), Mr. Power has produced a volume, interesting not only to surgeons and physicians but also to antiquaries, and to students of the manners and customs of the olden time in England. We learn how the Barbers became divided into Barbers proper and Barbers practising surgery; how the Surgeons arose as a distinct body of practitioners of surgery, and the Barber-surgeons and Surgeons united to form one Company; how the surgeons struggled to free themselves from derogatory connection with the barbers, and (in 1745) were successful; how the corporation of surgeons perished in 1796; and how the present Royal College of Surgeons in London was established by Royal Charter in 1800. We trust that the following remarks and extracts will induce our readers to study the book itself, which they will find full of curious and interesting information. The work, we may add, was printed before the editor had "had an opportunity of seeing" Sir Charles Cameron's "History of the Royal College of Surgeons in Ireland."

Sir James Paget's short Introduction explains the genesis of the work before us. Mr. South, when past seventy, began to collect materials for a history of the English College of Surgeons. Mate-

rials accumulated until they became unmanageable from their abundance, and death came when the projected work was but begun. His widow, "affectionately anxious that his industry should not be fruitless," sent his MSS. to the College of Surgeons. The Council requested Sir James to examine them, with the result that they were entrusted to Mr. D'Arcy Power for arrangement and publication of selections from the mass of material. We shall quote but one passage from the Introduction:—

"Whoever will study these Memorials as the history of a development may find in them abundant interest. Especially, he may trace the progress of medical education onwards from the teaching of apprentices, who were to be comely and to be able to read and write, and to wear no beards, and to be well punished for their faults; or the progress of teaching of anatomy, from the custom of public demonstrations once or twice a year onwards to the methods of our modern schools. Or he may try to imagine, for he can hardly trace, the contrast between the conjoint examination of the fellowships of physicians and surgeons in the first half of the fifteenth century and that which their descendants in the Royal Colleges have happily arranged in the last few years. He may wonder why so good a plan should have lapsed for more than four hundred years, and may find the bad reason for this and many other errors in the maintenance of vested rights, as if they were better than the promotion of knowledge. Or he may wonder that women were licensed to practise surgery in the fourteenth century, and hindered in the nineteenth; or that in the sixteenth century licences were granted for the separate practice of specialties; and then, as in the study of a development, he may consider whether the abolition of those usages was like the timely cessation of processes that had only an embryonic use."

In the third chapter will be found an account of two eminent fourteenth-century practitioners—John of Gaddesden, or Johannes Anglicanus, a physician, and John of Arderne, a surgeon. The former flourished about A.D. 1320. He was Physician to Edward II. and Edward III., and the first Englishman employed as Court Physician. He is mentioned (as *Gatesden*) in the prologue to the *Canterbury Tales* among the great authorities in medicine; and his "*Rosa Anglica*," treating of "fevers and injuries of all parts of the body, of hygiene, dietetics, and *materia medica*," was a text-book throughout Europe. The value of the work is not fairly represented by the one passage quoted by Mr. Power. John recommends that a small-pox patient should be wrapped in scarlet or some other red cloth, as, he says, "when the son of the illustrious

king of England had the small-pox, for I took care that everything about his couch should be red, and his cure was perfectly effected, for he was restored to health without a trace of the disease."

John of Arderne (or Arden), born A.D. 1307, was a surgical specialist, *fistulæ* being the field of his operations. He wrote a Latin treatise on this subject, which was translated into English in the early part of the fifteenth century, the translation being intituled "Of ye plage of fistula in ano and of ye manere of ye leche and of instrumentis necessary for ye fistule." From the first part of this treatise Mr. Power gives an extract of considerable length, in which John enumerates some wonderful cures which he had wrought. It concludes thus (we have punctuated and modernised the spelling):—

"And this I say, that I know not in all my time, nor heard not in all my time, of any man, neither in England, nor in parts beyond the sea, that could cure *fistula in ano*, except a friar minor that was with the Prince of Wales in Gascony and Guienne; which rosed and boasted him that he had cured the foresaid sickness. And at London he deceived many men. And when he might not cure some man he made suggestion to them that no man might cure them; and that affirmed he with swearing that if the fistule was dried, that the patient at the next should not escape death; which, forsooth, left and forsaken of him, I cured perfectly. And, to remove false opinions of ignorant men, for witness I put experience. Avicen, forsooth, saith experience overcometh reason, and Galien, in *pantegniis*, saith no man ought to trust in reason alone but if it be proved by experience. And he saith in another place, Experience without reason is feeble, and so is reason without experience fest unto him [to back it]. Nevertheless, I affirm not that I might heal all *fistulæ in ano*, for some are uncurable, as it shall be said within when I shall treat of them."—(P. 34).

We regret that our space will not admit of a transcript of the whole of Mr. Power's extract from that part of the treatise which discourses "Of the Manere of the Leche." Two or three samples we must give; and, first, on the important subject of fees for the operation, which were heavy enough, considering that money of that time was twelve times as valuable as it is now:—

"If he will favour to any man's asking, make he covenant for his travail and take it before hand. But advise the leech himself well that he give no certain answer in any case but he see first the sickness and the manner of it; and when he hath seen and assayed it, thofal [although] him seem that the sick may be healed, nevertheless he shall

make prognostication to the patient the perils to come if the cure be deferred. And if he see the patient perceive busily the cure, then after that the state of the patient asketh, ask he boldly more or less : but ever be he ware of scarce askings, for over scarce askings setteth at nought both the market and the thing. Therefore, for the cure of *fistula in ano*, when it is curable, ask he competently of a worthy man and a great an hundred mark or forty pound, with robes and fees of an hundred shillings, term of life, by year. Of less men forty pounds or forty marks ask he, without fees. And take he not less than an hundred shillings ; for never, in all my life, took I less than an hundred shillings for cure of that sickness. Nevertheless, do another man as him think better and more speedful.”—(P. 38.)

“Have the leech also clean hands, and well-shaped nails, cleansed from all blackness and filth. And be he courteous at lords’ boards, and displease he not in words or deeds to the guests sitting by. Hear he many things, but speak he but few ; for a wise man saith, It seemeth more to use the ears than the tongue. And in another place, If thou had been still thou had been holden a philosopher. And when he shall speak, be the words short and, as much as he may, fair and reasonable and without swearing. Beware that there be never founden double word in his mouth ; for, if he be founden true in his words, few or none shall doubt in his deeds.”

“Also it speedeth that a leech can talk of good tales and of honest, that may make the patients to laugh ; as well of the bible as of other tragedies and any other things, of which it is not to charge whiles that they make or induce a light heart to the patient or the sick man.

“Discover never the leech unwarily the counsels of his patients, as well of men as of women ; nor set not one to another at nought, although he have cause, that he be not guilty of counsel : for if a man see ye heed well another man’s counsel he will wist better in ye.”

We shall give the next paragraph, which concludes what we may call the ethical portion of the treatise, as nearly as modern typography permits in the language and spelling of the manuscript translation ; and take leave of John of Arderne, with the expression of a hope that Mr. Power will some day give us the work in its entirety, with glossary and notes.

“Many thingis forsothe bene to be kept of a leche withoute these that ar seide afore thatt may noght be noted here for ouer moche occupying. But it is noght to dout that if the foreseid be well kepte that ne thai shal giffe a gracious going to the vser to the highte of Worship and of Wynnyng, for Caton seith, *Virtutem primam imputa compescere linguam*. The first vertu trow yoe to be to refrayne the tong.”—(P. 42.)

About 1421 the physicians of London appear to have begun to claim their rightful position, and to make an attempt to free themselves from association with ignorant and incompetent practitioners. They formed a society which was to co-operate with the surgeons in the formation of a conjoint College. Sometime between May, 1421, and May, 1423, the earliest of "conjoint schemes" was established, with the concurrence and under the authority of the Mayor and Aldermen. The surgeons co-operating in this scheme were clearly distinct, not only from the barbers proper, but also from the barbers who practised surgery. They were probably associated military surgeons, and a class superior in knowledge and experience to either of the other groups of surgical practitioners. In 1423 the Mayor and Aldermen founded, by ordinance, the conjoint College, and required that all physicians and surgeons practising in London and its liberties should, after examination, become members of the Commonalty of Physicians and Surgeons. The new association began at once to come down upon all unqualified practitioners, amongst whom it thought fit to include the surgical section of the barbers. These gentlemen declined to be extinguished, and obtained a fresh confirmation of their power to practise surgery, which had been secured to them in 1415. The joint College was a failure. Even the date of its death is unknown. Physicians and surgeons had the same tendency to form explosive combinations in the fifteenth century as in the nineteenth. The surgeons proper, however, continued their own efforts at consolidation, and in 1435 "they appear as an established body," seventeen in number, "with a code of laws for the government of their society." This code is extant and is printed in an appendix.

In 1461 Edward IV. granted a charter to the barbers and barber-surgeons; in 1505 the Wardens and Fellows of the craft and mystery of Surgeons were recognised as a distinct body; and in 1518 the College of Physicians was founded, and 1522 its charter was confirmed by Act of Parliament. In 1674 Charles II. commanded that no one not a graduate of Oxford or Cambridge should be admitted to the fellowship; and until recently the mandate remained in force. The inferior position of surgery to medicine a little after the establishment of the College of Physicians is shown by an Act of 22 Henry VIII. (A.D. 1530), in which it is provided "that no person nor persones straungers beyng a comon baker, bruer, surgeon, or scryvenour, shal be enterpret

or expounded hande craftsmen, in for or by reason of usyng any of the sayde mysteryes or scyens of baking, bruying, surgery or wrytyng." *Noscitur à sociis!*

In 32 Henry VIII. the barbers and surgeons were united by Act of Parliament. Additional privileges were conferred upon the united company as that of taking the "Bodies of ffoure condemned persons yerely for Anatomies," no very liberal allowance in the "good old times" of Henry VIII., when men, women, and children were hung in dozens *pour encourager les autres*. The true barber was forbidden to "occupy any surgery, letting of blood, or any other thing belonging to surgery except drawing of teeth:" but, *en revanche*, the surgeon was forbidden to "use any shaving." The physicians were favourable to the union, and helped in the passing of the Act. Holbein painted the delivery of the Act by the king to the united Company, and the picture (of which an engraving is given in Mr. Power's volume) adorns the council hall of the barbers now. Nearest to the king in this picture kneels Thomas Vicary, Sergeant Chyrurgeon to his Majesty, the first Master of the United Company, author of "A Profitable Treatise of the Anatomie of Mans Body" (London, 1577), which reached its ninth edition in 1641. In this work he lays down "foure thinges moste specially that euery Chirurgion ought to have." He should be learned, expert, ingenious or witty—"for al things belonging to chirurgerie may not be written nor with letters set foorth"—and "wel-manered." Some of Vicary's precepts under this last head are not obsolete, and may be quoted:—

"A Chirurgion must take heed he deceiue no man, with his vayne promises, nor to make of a smal matter a great, because he woulde be accounted the more famous Likewise they shal geue no counsaile except they be asked, and then say their aduise by good deliberation, and that they be wel aduised afore they speake, chiefly in the presence of wise men. Likewise they must be as priuie and as secrete as any Confessour of al thingis that they shal eyther heare or see in the house of their pacient And see they neuer prayse themselues for that redoundeth more to their shame and discredite than to their fame and worship: For a cunning and skilfull chirurgion neede neuer vaunt of his dooings, for his works wyll euer get creditt ynough. Likewise that they despise no other Chirurgion without a great cause: for it is meete that one Chirurgion should loue another, as Christe loueth vs al. And in thus dooing they shal increase both in vertue and cunning to the honour of God, and worldly fame, to whome he bring vs all. Amen."—(P. 104).

In 1561 Thomas Gale was Master, the author of the first book on surgery published in English. In this work he weeps over the "chirurgians" of his day who "thynke they need no farther stodye if they can get thys recepte and that recepte, as they term it." "Few that have well brought up their sonne will put hym to the arte, because it is accounted so beggerly and vile," says one of the interlocutors in the work. Again, "it was saide that carpinters, women, weuvers, coblers, and tinkers, did cure more people than the chirurgians;" and this complaint is made after the author had seen the surgical practice at St. Bartholomew's and St. Thomas's. His rules of conduct for the surgeon are worthy of all approval; as also are those laid down by his contemporary, William Bulleine, in his "Dialogue between Sornes and Chirurghi" (1562). The surgeon, says William,

"Must begin first in youth with good learning and exercise in thys noble arte; he also must be clenly, nimble handed, sharpe sighted, pregnant witted, bolde spirited, clenly apparailed, pitefull harted, but not womenly affeccionated to wepe or trimble when he seeth broken bones or bloodie woundes; neither must he geue place to the crie of his sore Paciente, for soft CHYRURGIAINS maketh fowle sores. Of the other syde, he maie not plaie the partes of a Butcher to cutte, rende or teare the bodie of manne kynde. For allthough it be fraile, sore, and weake, yet it is the pleasure of God to cal it his Temple, his instrument, and dwelyng place, and the Philosophers dooe call it ORBICULUS, that is, a little world." (P. 131.)

We can do no more than allude to the stately manner of conducting the public demonstrations of anatomy (p. 137); to the difficulties in the way of getting the authorised amount of material from the gallows, and the provision for the evidently not unfrequent contingency of the revival of "the Bodie" (p. 141); to the stringent prohibitions against tanning "the skynne of any bodie like lether" (p. 136); the reference to the Company of a child "presented to be naturallie borne, haveing twoe heades, fflower armes, and three leggs," and their verdict that the said supposed monstrous shape "hath beene, either by arte soe composed and put together, from unnaturall and untimely birthes of children, or from other animalls, as apes, munckeyes, or the like" (p. 162); the appeal of William Goodness against William Clowes "for not curing his wief de morbo gallico," and the award that Clowes should either cure the "wief" or pay twenty shillings, with his preference of the latter alternative (p. 165). These and many other inter-

esting and amusing items will be found in Mr. Power's eighth chapter.

For many years before 1688 there had been "strained relations" between the Barber-surgeons and the College of Physicians; and in that year the Lord Chancellor, as Visitor of the College, inquired into the surgeons' grievances. The great grievance was that the College claimed and exercised the power of fining heavily any surgeon who gave internal medicine to a patient. In this respect the Chancellor's visitation seems to have done some good, though no definite result of it is on record. A complaint, subsequent to it, of a surgeon for giving pills, boluses, and diets, and charging £16, was dismissed by the censors, on the ground that there was no accusation of malapraxis. But the Company never obtained free power to prescribe for patients. Within living memory hospital physicians signed the hospital surgeons' prescriptions; and "it is due to the energetic protests of Abernethy" that the surgeon is now given complete control of his cases.

An unsuccessful attempt was made by the surgeons in 1684 to obtain separation from the barbers and incorporation for themselves. In 1744 the efforts were renewed, and with better fortune. The barbers objected, and drew up a protest, in which, as in a lady's letter, a copious use of Italics is an inadequate substitute for vigour (p. 255). On the 2nd of May, 1745, the Company of Surgeons was established by Act of Parliament (18 Geo. II., c. 15), under the name of the Master, Governors, and Commonalty of the Art and Science of Surgery. The Act provided that the presence of the master, one of the two governors, and one or two members should be necessary to form a Court for the despatch of business. In May, 1796, one of the governors died; and the other, blind and paralysed, was unable to attend a meeting held on the 7th July, 1796. The master and seventeen members, however, without a governor, illegally proceeded to business—the election of a governor in place of the deceased William Walker—and thus destroyed their corporation. It became necessary, therefore, to introduce a bill into Parliament for the reconstruction of the Company of Surgeons. The bill passed the Commons, but was thrown out in the Lords, through the influence of Lord Thurlow, who was of opinion that "there's no more science in surgery than in butchery." The result was much trouble and mortification to what we may call the ghost of the Surgeons' Company. A new bill was to be introduced, when it occurred to a shrewd member of

the Court that a Royal Charter would answer their purpose better than an Act of Parliament; and on the 22nd of March, 1800, the present Royal College of Surgeons in London was established by charter of George III.

“The titles of master and governors, however, which had belonged to the older corporations, were retained, and only gave place in 1821 to the more high-sounding titles of president and vice-presidents when the College received a supplemental charter from George IV. It was not until the year 1843, by a charter from the Queen, that the name of the College was changed to that which it still retains of The Royal College of Surgeons of England, with its present constitution of President, Vice-Presidents, Council, Fellows, and Members.”

Beiträge zur pathologischen Anatomie und Physiologie. Herausgegeben von DR. ERNST ZIEGLER und DR. C. NAUWERCK. Erster Band. Zweites und drittes (Schluss-) Heft. Jena: Gustav Fischer. 1886. Pp. 175 to 418.

In the number of the *Dublin Journal of Medical Science* for May, 1885, we noticed the first fasciculus of this work, and called the attention of our readers to the great excellence and value of the papers contained in it. The present fasciculus, which completes the volume, shows no falling off in variety or interest. It contains six papers.

The first is by Dr. Carl Wild, and is entitled “A Contribution to the Knowledge of Amyloid and Hyaline Degeneration of the Connective Tissue.” It gives the record of a very unusual case of amyloid disease occurring in a woman, aged fifty-six, who suffered from none of the usual predisposing causes of this kind of degeneration. She had pulmonary emphysema, feebleness of the heart, and died finally of erysipelas of the leg. The degeneration affected, not—as is usual—the spleen, kidneys, and liver, but the heart, intestine, tongue, peritoneum, bladder, and, in a less degree, the lungs. The vessels were chiefly affected, their walls being enormously thickened. The middle coats of the vessels were the principal seat of the disease, and while the adventitia was slightly affected, the intima remained free. Besides the vessels the connective tissue was extensively involved, and had undergone a hyaline degeneration, which only in places gave the amyloid reaction with iodine or methyl violet. The hyaline material seemed not to be derived from protoplasmic material, since it was

least abundant in the more cellular parts, but gave the impression of being a substance which infiltrated the bundles of connective tissue and there coagulated. The combination of the hyaline and amyloid degeneration leads to the belief that they are both to be referred to the same process. They both begin with the permeation of the tissue by a fluid albuminous substance which soon coagulates. At the same time the specific elements of the tissue are destroyed, the cells persisting for the longest time, but ultimately disappearing. The substance, which originally gives no iodine reaction, can undergo alteration and become amyloid; nevertheless this alteration may not occur, or it may take place at very different periods, generally soon after the deposition of the hyaline material, but sometimes not for a long time and then affecting this material only in places. This is most commonly the case in connective tissue organs, while in more glandular parts, which are richer in cells, the transformation occurs sooner.

The second paper, by Dr. Benno Lewy, "A Contribution to the Pathological Anatomy of the Stomach," gives a description of a hitherto very badly described affection, chronic atrophy of the mucous membrane of the stomach. The description is founded on two cases, in one of which the disease followed on the ingestion of strong nitric acid, in the other on chronic gastritis. The morbid changes leading to disappearance of the glandular structures are well described and figured in a good plate. It is further shown that although the pancreas and intestine may be sound, yet in cases where the stomach becomes incapable of digesting, death takes place from deficient absorption of nitrogenous food.

"A Contribution to our Knowledge of Fibroma Molluscum and of Congenital Elephantiasis" by Drs. Hürthle and Nauwerck follows, and gives the details of three cases of fibroma molluscum, in which, in accordance with the views of v. Recklinghausen, the tumours took their origin from the connective tissue sheaths of the cutaneous nerves. In a fourth case, where the connective tissue growth was not nodular or in the form of separated tumours, but diffuse, constituting what has been described as pachydermatocele, the nerves could also be shown to be the starting point of the growth. In a fifth case the growth was unconnected with disease of the nerves, but was associated with enormous distension of the lymphatics of the skin, and probably had its origin in a congenital pathological condition of this structure. The attacks of erysipelas which occur so commonly in the course of elephantiasis are looked

on by the authors as due to neurotic or neuro-paralytic congestion, and as not caused, like ordinary erysipelas, by cocci.

The fourth paper is the first part of what promises to be a very comprehensive and valuable experimental work on the regeneration of glandular tissue. The present instalment is on "The Regeneration of the Hepatic Tissue." The author, Dr. W. v. Podwyssozki, junior, has studied the processes of repair in the liver after that organ had been subjected to various kinds of injuries, inflicted always with the strictest antiseptic precautions. The process differs somewhat in different animals. In rats and cats the hepatic cells take the chief part in the repair, the epithelium of the bile ducts playing a subordinate part, while in guinea-pigs and rabbits the bile ducts take a much larger share in the process.

It would be impossible for us to give any analysis of this work, which is of great length and abounds in descriptions of minute details, which would be hardly intelligible without the drawings. We may say, however, that it is a research of great interest, and raises our knowledge of the processes of glandular repair to a level it never before reached. The paper is illustrated by nine beautifully executed coloured plates containing 107 figures.

In the fifth paper Professor Ziegler discusses the questions "Can Acquired Pathological Conditions be Transmitted to the Next Generation, and How do Inherited Diseases and Malformations arise?"

He answers the first question in the negative, and maintains that where hereditary malformations or diseases occur in a family, these are due to variations in the germ of that individual in whom the disease first occurred. In other words, so long as the ovum and semen are healthy it does not matter what abnormality there may be in other parts of the parents; they will not be transmitted to the offspring.

This thesis is ably and fairly argued on the grounds of modern embryological discoveries. It would be quite out of the question in this place to follow the author through his reasoning, but we have no doubt that his conclusions are just, and his paper is undoubtedly a very readable and instructive contribution to a most interesting and difficult subject.

The concluding paper by Dr. C. Nauwerck gives the history of a "Fatal Case of Chorea, with the *Post-mortem* Examination." The patient was a girl, aged seven years. The choreic movements began on the 5th of June after a few days of dulness and depres-

sion, during which palpitation of the heart was observed. The symptoms increased rapidly in severity, and death took place on the 13th of June, with severe nervous symptoms, as if the patient was suffering from a severe infective disease, and pneumonia of the right lung, pericarditis, and endocarditis. The naked-eye appearances of the nervous centres showed only œdema, and in parts undue vascularity, but a microscopic examination revealed most extensive morbid changes. These were:—

1. *Foci of inflammation* in the shape of perivascular accumulations of small round cells, whose nuclei stained deeply in hæmatoxylin. These foci were of different sizes, but never large enough to be seen with the naked eye. The vessels were filled by white corpuscles. The inflammation had nowhere reached the stage of suppuration. The cellular accumulations were most numerous in the upper half of the medulla oblongata and in the pons. Smaller and fewer foci were found in the white substance of the cerebrum and in the internal capsule on both sides. They were absent from the cerebellum, basal ganglia, crura cerebri, corpora quadrigemina, cerebral cortex, and spinal cord, while in the lower half of the medulla oblongata they were very few.

2. *Hæmorrhages*, of very small size, most numerous in the crura cerebri, internal capsule, pons, and upper half of the medulla oblongata. The effused blood was so rich in white corpuscles that it might be justly spoken of as a hæmorrhagic inflammation. Capillary emboli were nowhere found. The vessels, especially capillaries and veins, were distended with blood.

3. *Degeneration of Nerve Fibres*.—In the cervical portion of the spinal cord numerous nerve fibres were found with irregularly swollen axis cylinders and fattily degenerated medullary sheaths. The degenerated fibres occurred in all parts of the transverse section of the cord, but chiefly in the anterior and lateral columns, and they had a tendency to form groups about the vessels; in the lower parts of the cord they were much fewer. In the internal capsule and the medullary part of the central portion of the cerebrum there were a few degenerated fibres. Beyond these changes nothing was found in the nerve centres. The examination for micro-organisms gave a perfectly negative result.

The changes found were those of an inflammatory kind. How they caused the choreic movements is not clear, but from the fact that the lesions are focal and not diffuse, the varieties in the symptoms of different cases of chorea may be explained by

variety in the distribution of the centres of inflammation. The changes are of such a kind that they may get well, or that they may persist and lay the foundation of sclerotic and other permanent morbid conditions. As to the cause of the inflammation Nauwerck has no hesitation in referring it to a blood poisoning (although he failed to find bacteria), and he thinks that the pericarditis, endocarditis, the alterations in the nerve centres, and the final pneumonia in this case were all due to the same cause, the chorea being only a sign that the excitor of the disease or its products were active in the brain and cord. In accordance with this view he thinks there may be an infective chorea in which the poison affects the nerve centres only, and he cites an instance in which in one family—within the space of a few weeks—one member suffered from pericarditis, a second from articular rheumatism with endocarditis, and a third from uncomplicated chorea.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Volume the Sixty-ninth. London: Longmans, Green & Co. 1886. 8vo. Pp. 549.

THE volume of the *Medico-Chirurgical Transactions* for the last session is one of unusual size and of exceptional interest. According to custom, the address of the President—Dr. George Johnson, F.R.S.—occupies the place of honour. It is cast in a minor key, owing to the many obituary notices of deceased Fellows of the Society which it contains. Among the list of the dead we find the name of Mr. T. Jolliffe Tufnell.

It would be impossible to do full justice to the volume in a short bibliographical notice, and we must, therefore, be content to name some out of the many excellent papers which find a place in the book.

Mr. Walter Rivington reports a case of ligature of the left common carotid artery wounded by a fish-bone, which had penetrated the larynx; and in doing so very properly points out the danger involved in incautiously passing bougies or probangs for the purpose of clearing the pharynx or œsophagus of a fish-bone or other sharp-pointed body. The history of the case seems to justify an inference that the probang produced a fatal injury to the carotid by pushing the fish-bone through the wall of the pharynx. An appendix to this paper contains forty-five cases of

wounds of blood-vessels by foreign bodies, of which three came under notice in Dublin. In the text of Mr. Rivington's paper "Steevens' Hospital" appears as "St. Stephen's Hospital."

Our fellow-townsmen, Mr. Arthur E. Barker, contributes a paper on "The Distribution of *Bacillus Anthracis* in the Human Skin in Malignant Pustule," and this is followed by one on "A Case of so-called Actinomyces of the Liver," by Dr. John Harley, in which the author rejects the fungus-theory of the production of the disease. He maintains that the striations which he describes and figures in his communication are "nothing more than the earliest indications of that calcareous and fatty degeneration to which caseous tubercular deposits are so liable, and have no more connection with fungoid growth than a gall-stone has."

Surgical readers will find much to interest them in this volume—for example, in Mr. Bryant's article on "Amputation at the Knee-joint by Disarticulation;" in Mr. George Pollock's account of the "Changes which occur in Bone and Soft Tissues after Amputation of a Limb;" in Mr. Barwell's and Mr. W. Rivington's cases of "Supra-pubic Lithotomy;" in Mr. Chavasse's case of "Multiple Neuromata;" and in an experimental inquiry by Messrs. Charles A. Ballance and Walter Edmunds on the "Ligation of the Larger Arteries in their Continuity." Nor does this exhaust the list of surgical papers, among which one of the most interesting is a clinical record of "Two Cases of Splenectomy," by Mr. J. Knowsley Thornton, whose position in the department of abdominal surgery is unassailable.

In a concise paper on the "Tapetum Lucidum," Mr. Henry Lee arrives at the following conclusions:—

"1. That where the tapetum exists, the eye has, by reflected light, an illuminating power.

"2. That this power can be utilised only at comparatively short distances, and that the eyes of fish and of birds (which have the longest and keenest vision) have it not.

"3. That in animals which possess the tapetum the light reflected from its surface is directed, in different classes of animals respectively, in accordance with the wants and instincts of each."

By-the-bye, the word should be "Tapete," not "Tapetum."

There are two statistical articles—one by Dr. William Ogle on "Statistics of Mortality in the Medical Profession," the other by Dr. Angel Money on "Pneumonia, with special reference to the

Relations of Delirium and Temperature.” The former of these papers will be perused with keen interest for obvious reasons. The death-rate among members of our profession from cirrhosis and other diseases of the liver is considerably more than twice as high as that of the general male population. Dr. Ogle finds it difficult to resist the conclusion that the main part of the “enormous” mortality from hepatic diseases is due, despite of the indignant protest of Professor Casper (“*Annales d’Hygiène Publique*,” XI., 1834, p. 384) to the contrary, to the neglect on the part of medical men, as a body, of those wise rules of diet which they lay down for the guidance of their patients. He adds—“That doctors are prone to neglect in their own persons the rules of abstemiousness which they lay down for others is a charge of great antiquity, is shown by the following fragment of Philemon:—

Τεκμήριον δε, τοὺς ἰατροὺς οἷδ' ἐγώ
 Ὑπέρ ἐγκρατείας τοῖς νοσοῦσι εὖ σφόδρα
 Πάντας λαλοῦντας, εἴτ' ἐάν πταίσωσί τι,
 Ποιοῦντας αὐτοὺς πανθ' ὅσ' οὐκ εἶων τότε
 Ἐτέροις.' ”

This reminds us of a story told of a distinguished member—long since deceased—of the celebrated Medico-Philosophical Dinner Club in Dublin, which generally goes by the *soubriquet* of the “Philo-œsophageal Club.” The gentleman in question thoroughly enjoyed a good dinner. It so happened, that at one of the many festive gatherings of which he was the life and central figure, a melancholy dyspeptic-looking individual took the next seat to him at table. The feast went gaily on—turtle soup gave place to turbot, and that again to *entrée* upon *entrée*, course after course—the banquet closing with mayonnaise of lobster, Bombay ducks, and other piquant indigestibles. At last quoth our valetudinarian friend: “Doctor, I have just taken a most valuable travelling opinion from you.” “How is that?” replied our Esculapius. “Why, sir,” said the other, “I watched carefully everything you ate, and feeling sure you would not take anything likely to disagree, I followed your example and dined literally *with* you.” “Alas, sir,” exclaimed the doctor, “have you made your will? If not, go home and do so without delay, for I very much fear you are a doomed man!”

Although we cannot name all the papers in the volume, a “Case of General Seborrhœa,” by Mr. J. Bland Sutton, must not be passed over in silence. The condition presented by the foetus, the

subject of this paper, is very rare. It received from Hebra the name of *Congenital Ichthyosis*, and Dr. Wilkes refers to it as the "*Harlequin*" *Fœtus*—a term fully justified by the coloured plate illustrating Mr. Sutton's communication. Microscopical examination of the skin showed that the peculiar changes in this curious condition are confined almost exclusively to the epidermis, which in some places, especially on the scalp, exceeds its normal depth about ten times. Mr. Sutton is convinced that in these cases we have to deal with increased activity of the sebaceous glands, which are normally exceptionally active about the fourth and fifth months of intra-uterine life, then giving rise to the "smegma embryonum," or "vernix caseosa." He thinks that the secretion of the sebaceous glands, mixed with desquamating epidermis, instead of being shed into the amniotic fluid, cakes or solidifies on the skin, while there is, possibly, a coincident dermatitis. That the abnormal thickening of the skin is due to the vernix caseosa receives support from the circumstance that it is most marked in those parts of the body where this secretion is most copiously formed. He suggests that the scientific term, "general seborrhœa," should be retained to denote the condition, whilst "harlequin fœtus" may be used as an excellent clinical term for the purpose of ready recognition.

We will conclude this notice by drawing attention to a remarkable case, reported by Mr. Jonathan Hutchinson, of congenital absence of hair and mammary glands, with an atrophic condition of the skin and its appendages in a boy, aged three and a half years, whose mother had been almost wholly bald from alopecia areata from the age of six years.

The First Appendix to the Medical Digest. By RICHARD NEALE, M.D. Lond.; Member of the Dutch Medical Society of Batavia, Java. London: Ledger, Smith & Co. 1886. 8vo. Pp. 218.

THE "Medical Digest"—a work which has cost its erudite author not less than forty years of patient, plodding labour—is now so widely known and appreciated as a book of reference that periodical appendices to it will be eagerly looked for from time to time. Of these the first appeared last June, and it is because the book did not reach the Editor's hands until a very short time ago that it has not sooner been favourably noticed in these pages.

This—the First Appendix—contains no fewer than eighteen hundred and seventy-nine subject-headings, and embraces the

years 1882, 1883, 1884, 1885, and the early part of 1886. When we noticed the "Medical Digest" on its first appearance as an independent work in 1882^a—for it had previously been issued as one of the New Sydenham Society's publications—we explained the scope of the undertaking. At the same time we expressed our regret that this Journal was not included in the list of periodicals to which direct reference was made in the "Digest." On this score we still have a grievance, the "Asclepiad" and the *Medical Press and Circular* being the only publications which have been added to the periodicals included in Dr. Neale's field of research.

In these days, when a very deluge of literature issues from the press, a work of ready reference becomes a necessity, and the Medical Profession, both at home and abroad, owes a debt of gratitude to Dr. Neale for having undertaken and accomplished a task of Herculean dimensions.

Massage as a Mode of Treatment. By WILLIAM MURRELL, M.D., F.R.C.P.; Lecturer on Pharmacology and Therapeutics at the Westminster Hospital; Examiner in Materia Medica in the University of Edinburgh, and to the Royal College of Physicians of London. London: H. K. Lewis. 1886. 8vo. Pp. 78.

THIS excellent *brochure* from an experienced pen will well repay a careful study, particularly just now when the value of *massage* as a therapeutic agent is coming to be widely known and appreciated. Chapters on the history and method of performing massage are followed by one on "the Masseur and the Masseuse"—the male and female operators; by another on the physiological action of massage, and by several others on the practical application of the process in various diseases and morbid states, including the "fidgets." At page 69 we meet the good old Anglo-Saxon term "Hind-words" used as a synonym for "Appendix;" but with some inconsistency the author uses the foreign word "Epilogue" on page 72. In his "Epilogue" he draws attention to an article on "Massage and Morals," which very recently appeared in a well-known Society Journal. He believes that the practical conclusions to be deduced from a perusal of this article are:—

(1.) That massage should never be resorted to unless under medical advice and superintendence.

^a See Vol. LXXV. of this Journal. February, 1883. Page 137.

(2.) That no medical man should permit his patients to remain under the care of any advertising rubber or "professor."

(3.) That under no circumstances should a lady or child be treated by anyone but a well-trained and reliable *masseuse*, who should act under the direction of the medical adviser.

De l'Action Physiologique des Soustractions Sanguines. Par M. le Docteur LÉON FREDERICQ. Bruxelles: A. Manceaux. 1886. Pp. 103.

THIS essay was awarded a prize by the Royal Belgian Academy of Medicine, and is published by this distinguished body. It is divided into three parts. In the first the author gives a historical *résumé* of the results which have been obtained by previous experimenters who studied the effects of blood-letting on the different physiological processes. In the second part are contained the original researches of the author, by which he attempts to fill up the *lacunæ* in the work of other physiologists, and to explain certain discrepancies. We have here the details of a large number of laborious and carefully-executed experiments, whose results are thus summed up:—

Circulation and respiration.—The action which bleeding exerts on the cardiac rhythm varies in different species of animals according to the condition of the inhibitory tonus of the pneumogastric nerve. Bleeding depresses this tonus:—

1. In the dog and pig, in which animals there is a continuous tonus but with respiratory variations (exaggerated in expiration, diminished in inspiration), the cardiac rhythm is accelerated and becomes uniform.

2. In the ox, and probably in man, and most other mammals who have a continuous and uniform tonus, bleeding simply accelerates the cardiac rhythm.

3. In the rabbit, who has no tonus, the cardiac rhythm is not influenced by bleeding.

In the dog, being bled to death, the cardiac pulsations, at first accelerated, subsequently become slowed (stimulation of vagus), but during the last moments of life become again rapid and irregular, often assuming the type of the *pulsus bigeminus*—they persist for some time after the respiratory movements have ceased.

In the dog the respiratory oscillations of arterial pressure present three phases during the course of a fatal hæmorrhage :—

1. Initial phase. Discordance between the arterial and thoracic pressure oscillations. The carotid pressure rises during inspiration.

2. Phase corresponding to a loss of blood equal to 2–3–4 per cent. the weight of the body. The carotid pressure falls in inspiration and rises in expiration.

3. Last phase. Hæmorrhage of 4–5 per cent. the weight of the body. The carotid pressure rises in inspiration.

Experiments on dogs have shown that unless enough blood is withdrawn to seriously endanger life, it is not possible to permanently lower the blood-pressure in the vessels. This result has been generalised and supposed to hold good in the case of other animals. Fredericq shows that in rabbits a hæmorrhage of 1 per cent. the weight of the body is sufficient to produce a considerable and durable lowering of blood-pressure.

Intensity of the respiratory exchanges and of calorification.—In the rabbit, during digestion, the intensity of the respiratory exchanges diminishes generally after a bleeding (diminution due in part to the disturbance of digestion consequent on the bleeding). There is a diminution in the quantity of oxygen consumed, and probably a still more marked diminution in the quantity of CO₂ exhaled. The quantity of heat radiated by the animal also is diminished.

We may conclude that in a digesting animal the combination of the two following factors—(1) augmentation of the quantity of oxygen consumed by the destruction of the albumin, and (2) diminution of the oxygen consumed by the combustion of glycogene and of fat after bleeding, gives generally a negative resultant. The resultant has, however, sometimes a positive value.

In a fasting animal in which a bleeding is practised, the diminution in the consumption of oxygen is only momentary. At the end of a short time the intensity of the interstitial combustions rises and attains a level which may reach or surpass the values got before the bleeding. In most cases the exciting influence of hæmorrhage on the organic oxidations is manifest; nevertheless the temperature in the rectum is lowered, the slight augmentation in the heat produced being more than compensated by the heat lost by radiation. In fact, a fasting animal placed in the calorimeter gives off constantly more heat after a hæmorrhage than before it; there is therefore a dilatation of the cutaneous vessels. In the febrile

animal the results of bleeding are the same as in the healthy and digesting animal.

In the third part of the work an attempt is made to define the indications for and against bleeding in man. There is great difficulty in doing this, owing to our ignorance of the exact physiological conditions in most diseases. However, it may be said that bleeding is contra-indicated in all cases of anæmia and in chronic diseases, particularly when accompanied by fever, since the destruction of the albuminous parts of the body is promoted by hæmorrhage.

The diminution in the quantity of the blood caused by bleeding is very transitory and is soon compensated by the absorption of the interstitial lymph. Hence in cases where we desire to check transudation and promote absorption, as in pulmonary œdema, pneumonia, pleural effusion, &c., bleeding may find an indication; the effect, however, can be only temporary.

As has been stated, moderate bleeding, while it does not reduce the blood-pressure in dogs, does have this effect in rabbits. It is possible that men may resemble rabbits rather than dogs in this respect, and hence bleeding may be of service in cases of exaggerated vascular tension.

Since bleeding lowers the production of heat, it might appear to be indicated in fever; but it must be remembered that while the quantity of matter burned in the body is reduced by hæmorrhage, the quality of the matter consumed is altered in a most injurious manner. Bleeding reduces the combustion of fats and carbohydrates (glycogene), but increases that of the more valuable proteids, in this way acting like the fever itself. In short, bleeding is a means which should be reserved to meet certain accidents supervening suddenly in the course of acute diseases. Its immediate effect is marked, but the results are not durable.

Beginner's Guide to Photography; showing how to buy a Camera and how to use it. By A FELLOW OF THE CHEMICAL SOCIETY.
London: Lejeune and Perken. Illustrated. 1886. Pp. 92.

THIS little book shortly describes, first, the apparatus required by the photographic amateur, and secondly, how he is to use it. The language is simple and clear, the formulæ are reliable, and the directions easy to follow. Beginners in dry-plate photography may safely accept this book as a guide. The only fault is that

too much is attempted; not content with telling how to take, develop, print, and tone, and how to avoid and correct mistakes and accidents, the author goes on to "Producing Lantern Slides, Photomicography, and Enlarging," and these subjects are necessarily dealt with too briefly to be of much value, while the methods recommended are often not the simplest. For example, in photomicography the arrangement suggested, although undoubtedly efficacious, is not nearly as suitable for beginners as Mr. J. A. Scott's excellent little camera, and much more costly. The only serious error occurs in the section on printing transparencies for the lantern, where the beginner is advised to expose the plate eighteen inches from a gas-flame for three seconds. The beginner who only gives this exposure will spend a good deal of time watching for an image which will never develop. There is an appendix of illustrations which, though alluded to in the text, are not separately named. There is no index.

Elements of Practical Medicine. By ALFRED H. CARTER, M.D., Lond. Fourth Edition. London: H. K. Lewis. 1886. 8vo. Pp. 443.

THE fourth edition of this well-known hand-book scarcely differs from the preceding one, the author having neither increased its size nor used a smaller type in order to squeeze in new matter. It is still suited rather for senior students than for practitioners, as the arrangement is good and the pathology and semeiology are dealt with clearly and fully, whilst the paragraphs on treatment are meagre and wanting in clearness. To some extent this deficiency is remedied by a "Therapeutic Index," which fills thirty pages, and contains numerous prescriptions in full. It would greatly improve the book to omit the Therapeutic Index and devote the space to dealing properly with the treatment of each disease.

Spasm in Chronic Nerve Disease; being the Gulstonian Lectures, delivered at the Royal College of Physicians of London, March, 1886. By SEYMOUR J. SHARKEY, M.A., M.B., &c. London: Churchill. 1886. Pp. 99.

THE very wide and rather unmanageable subject which Mr. Sharkey has chosen for his lectures is treated of under three heads:—1. Spasm, in connection with cerebral motor mechanisms;

2. In connection with spinal mechanisms; and, 3. Functional spasm.

The work contains records of numerous cases of very great interest, and abounds in suggestive and valuable matter. The author does not seem, however, to have arrived at any very general conclusions which can be formulated, and in other respects his work is not one which could very well admit of a short analysis. We must confine ourselves, therefore, to expressing our sense of its value as a contribution to the study of nervous disease; and we most cordially recommend it to the attention of such of our readers as are interested in this subject.

The Peroneal Type of Progressive Muscular Atrophy: a Thesis for the Degree of M.D. in the University of Cambridge. By HOWARD H. TOOTH, M.D. London: H. K. Lewis. 1886. Pp. 43.

IN this very able thesis the author arrives at the following conclusions:—

1. That there is a form of progressive muscular atrophy which commences in the lower extremities; most often in the peroneal muscles, but sometimes also in the tibialis anticus, extensor longus digitorum, or gastrocnemius.

2. That the hand and fore-arm muscles are attacked at an early period.

3. That the disease is one of childhood.

4. That heredity is a marked feature.

5. That the disease shows a slight preference for the male sex.

6. That fibrillar or fascicular tremors are frequently, but not always, present.

7. That degenerative electrical changes are often an early phenomenon.

8. That from the records of autopsies, as well as from the symptomatology, it may be inferred that the disease is one of the *peripheral nerves*.

Five cases are recorded in illustration of this type of disease, and a tabular statement of all the recorded instances is given. The essay concludes with a very copious bibliography.

PART III.

HALF-YEARLY REPORTS.

REPORT ON PUBLIC HEALTH.^a

By SIR CHARLES A. CAMERON, M.D.; S. Sc. C. Camb. Univ.; M.K.Q.C.P.; Past-President and Professor of Hygiene and Chemistry, R.C.S.I.; Examiner in Sanitary Science in the University of Cambridge, and the Royal University of Ireland, &c.

PROGRESS OF BACTERIOLOGY.

DR. D. O. KRANTSFELD has studied, in Professor Ivanovski's laboratory at St. Petersburg, the nature of the micro-organisms present in the pus of acute suppuration. He states that those most frequently met with are staphylococcus pyogenes (aureus, albus, and citreus) and streptococcus pyogenes. The development of organisms is, he believes, the most important factor in the ætiology of acute suppuration. Their mere presence is not, however, the invariable cause of suppuration—that morbid process depending on the general and local conditions of the tissues, and the numbers and aggregation of the organisms.

Staphylococci and streptococci are, both in shape and life-history, quite distinct. In culture media the former multiply rapidly, and uninfluenced by the presence of air, the latter develop more slowly, are less vigorous, and thrive better where there is least air. In the tissues the staphylococci develop with greater rapidity, and may circulate with the blood, whilst the more feeble streptococci attach themselves to the lymphatics. Both set up pyæmia—the streptococci, acute abscesses along the course of the lymphatics, in serous cavities, and at the joints. The suppuration set up by the staphylococci is generally situated close to the point at which they enter the organism. Dr. Krantsfeld induced abscesses, pyæmia, septicæmia, and acute osteomyelitis in rabbits by introducing pure cultures of staphylococci pyogenes into their systems.

^a The author of this Report will be glad to receive any books, pamphlets, or papers relating to hygiene, dietetics, &c. They may be forwarded through the agencies of the Journal.

In the thirty-third volume of the "Transactions of the Pathological Society," Mr. F. S. Eve gives an account of the microscopic appearance of a renal tumour, at least ninety years old, amongst the specimens in the Hunterian Museum. The interesting point in connection with the examination is that the pathology of the tumour was as easily made out as if the specimen were recent. This observation has directed attention to the microscopical study of museum specimens. In the twenty-first volume of the "St. Bartholomew's Hospital Reports," just issued, Dr. Vincent Harris shows that bacteriology may be studied in connection with specimens more than half a century old. In three specimens of wasting lung disease bacilli were readily detected. "The finding," says Dr. Harris, "of bacilli in a single case of sufficiently old diseased lung would be enough, one would suppose, to render it very probable that the relationship between the bacilli and the diseased processes of tubercle is no new one, or, in other words, that bacillar phthisis is no new disease."

M. Nocard, of Paris, asserts that he has discovered in the milk of cows suffering from mammillitis a microbe, *sui generis*. He cultivated the microbe, and found that borax rendered its cultivation in fluids sterile; whereupon he suggested, with complete success, the application of solution of borax to the teats. The solution was used as an injection as well as a wash.

At a recent meeting of the Central Veterinary Association, Paris, M. Nocard read a paper on the tuberculosis of birds. He stated that birds living in contiguity to man are peculiarly liable to bacillary tuberculosis. He cultivated the bacilli, and found that they were capable of inducing tuberculosis when introduced into the systems of mammalian animals, while bacilli from the latter produced tuberculosis in birds.

According to Dr. Acker (*Annales Médico-Chirurgicales*) the vaccine lymph from tuberculous cows does not propagate tuberculosis to healthy animals when introduced into their blood. The same observation was made in reference to scrofula. Acker's observations do not accord with the opinions of the majority of physicians.

In the *Progrès Médical* M. Koubassoff states (1) that the bacilli of charbon always pass from the mother to the fœtus; (2) that the longer a female lives after inoculation, at the time of her death the greater the number of bacilli found in the fœtus; (3) it is always found that the virulent bacilli multiply more than the

attenuated bacilli; (4) the pathological condition of the membranes of the placenta and the foetus retards the passage of the bacilli; (5) the abundant inoculation of a female with a very strong vaccine almost always causes the death of the foetus; (6) the vaccination of the mother does not sufficiently protect the foetus.

The bacilli of typhoid have been for many years the object of investigations. The latest contribution to the subject is from the pen of Dr. Vilclur, and appears in a Russian journal, the *Vrach*. The observations recorded were made in Professor Afanasieff's laboratory. More than two hundred cultivations from the organs of four typhoid patients were made. The colonies of bacilli were larger than similar colonies of a non-typhoid character. Their colour is a yellowish cinnamon, and they retain that hue under circumstances where non-typhoid colonies become brown or black. In length they ranged from one-third of the diameter of a blood corpuscle to more than the full diameter. Their size depends upon the cultivation medium—the longest being developed in jelly cultures. The best stain was found to be a solution of rubin in anilin water. The author found characteristic bacilli in the stools of sixteen out of twenty patients believed to be suffering from typhoid fever. They were all found to be capable of being multiplied by cultivation.

In the *Revue de Médecine* for August, 1886, Professor Kelsch, of Val de Grace, says that sporadic or epidemic catarrhal icterus (catarrhal jaundice) is a specific infective disease, caused by the introduction of an organism into the system. He believes that the organism is generated in marshes, and resembles the *materies morbi* of typhoid and malarial fevers.

At a recent meeting of the Paris Biological Society M. Galippe stated that he had observed in synovial vegetations from the knee of a horse bacteria identical with those which he had noticed in vesical calculi. He succeeded in developing them in culture media. From his study of these organisms he came to the conclusion that crystallisations in the animal economy are the result of the action of microbes, which consequently are pathogenic parasites of the foreign bodies in the animal system. M. Galippe also claims to have discovered, in saliva, a fungus belonging to the *Monillia* family, and which he has named *monillia sputicola*. It is composed of tubes and spores of mycelium.

In the *Archiv für Klinische Chirurgie* (Band 31, Heft 2), Dr. Schüller gives an account of his searches for micro-organisms in the

synovial fluid of inflamed joints, which proved a success. Dr. Smirnoff, of Kazan, Russia, follows up Schüller's researches, but only in the case of the synovia of persons who, whilst suffering from infectious diseases, had no inflammation of their joints. In five cases out of nine of uncomplicated croupous pneumonia examined micro-organisms were observed—they resembled Friedländer's diplococci with capsules. In three out of eight cases of phthisis Koch's bacilli were discovered; micro-organisms were also found in cases of recurrent fever, miliary tuberculosis, and Siberian plague. The organisms were spherical and ovoid cocci, and but rarely small bacilli; curved bacilli and spirilla were never observed.

Dr. Cunningham gives, in the "Scientific Memoirs of Medical Officers of the Army of India" (Part I., Calcutta, 1885), an account of an organism which is probably the *materies morbi* of the Delhi boil. When the substratum of the boil is stained with gentian violet, the organisms are seen embedded in its lymphoidal elements. They vary considerably in size, but, on the average, are larger than a lymph corpuscle. In shape some are circular, others ovate or elliptical. They contain bodies resembling nuclei, which have a special affinity for staining materials, and in some specimens they resemble actinomycosis. The organisms were most frequently found in the layer of granulation tissue beneath the papillary layer of the skin; but they were met with in other parts of the skin, and even in the subdermal tissue. Dr. Cunningham conjectures that they may gain access to the interior of the skin through the hair follicles and sweat glands. The discovery of these parasites shows the need of free incisions in the treatment of the Delhi boil. As the life-history of these organisms is unknown, Dr. Cunningham is, properly, by no means dogmatic in associating them with the Delhi boil as its cause. It is quite possible, he says, "that the lesions may arise from other parasites."

Dr. T. D. Acland, in the *British Medical Journal* for June 19, 1886, discusses the disease known as actinomycosis hominis. It is a progressive inflammatory affection, resulting in the formation of granulation tumours and fibrous tissue, terminating generally in suppuration. The malady is characterised by the presence of minute rosette-shaped nodules firmly embedded in the centre of masses of recent inflammatory tissue or floating in pus from suppuration. Any organ or tissue is liable to become the seat of this disease.

The parasitical nature of actinomycosis had been recognised

many years before the nature of the micro-organism was described in 1877 by James Israel (*Virchow's Archiv*, Vols. LXXVI. and LXXVIII.). They are the rosette-like nodules referred to above, and, according to Israel, are probably derived from some form of leptothrix found in the mouth. There are, however, many likely sources of such organisms.

The first case of this disease recognised in England is that described by Dr. Sharkey and Dr. Acland, in the "Proceedings of the Royal Medical and Chirurgical Society" for November 24, 1885. Subsequently Mr. Shattock discovered two specimens of the disease, which, described as abscess of the liver, had been deposited in the Museum of St. Thomas's Hospital. A study of those specimens enables Dr. Acland to correct the description of actinomycosis given in works on pathology, and which seem to apply to the bovine form of the disease. The organism in the latter is a tufted rosette of radiating pyriform or club-shaped structures. These are either single or divided into dissepiments of considerable bulk. On attaining to its full development it presents the appearance of a mulberry. In the disease in man, as observed by Dr. Acland, the growths varied in size from a pin's head *downwards*. They seemed to consist of broad striæ radiating from a common centre, or enclosing a central space, which was to be filled with the *débris* of inflammatory cells. The striæ had nothing in common with the well-defined highly refractory, club-shaped masses met with in bovine actinomycosis. When stained by Gram's method, they exhibit an appearance of radiation due to the streaming out of innumerable threads into the surrounding cells. The threads are very variable in shape, some of them being twisted, others branched, many single and extending to a considerable distance from the central mass or terminating in clumps of fibres. The extension of the growths specially leads to the formation of fairy rings, the fusion of which leaves large areas of degenerated products in the centre of the widening spaces.

Dr. Acland is of opinion that actinomycosis micro-organisms are not, as some observers have suggested, conidia, or that their threads are mycelium. Professor Boström, of Giessen, has very recently succeeded in cultivating actinomycosis hominis in solidified blood-serum, Agar-Agar, and gelatine, and finds that the micro-organisms mature in five or six days. His researches seem to indicate that they should be classed with schizomycetes, or bacteria, rather than amongst the hyphomycetes, or moulds.

Some years ago Dr. Domingo Freire, of Rio de Janeiro, stated that he had discovered a successful vaccine for yellow fever, but his published *modus operandi* did not meet with the approval of bacteriologists. M. Rebourgeon, who has studied in M. Pasteur's laboratory, has recently given Dr. Freire instructions in the methods devised by the great bacteriologist. Messrs. Freire and Rebourgeon now announce that the vaccine has proved a success, not one of the 6,000 persons protected by it during the recent epidemic of yellow fever having contracted the disease. This matter was discussed at a meeting of the Paris Société de Biologie on the 22nd of May last, and it was resolved to appoint a Commission to investigate it. The Commission includes MM. Brown-Séquard and Cornil. In the United States the proposal to have the subject investigated is strongly supported by the American Medical Association.

Dr. Arthur Downes, in a paper read before the Royal Society, on January 14, 1886, showed that the rays at the violet end of the spectrum were inimical to the organisms associated with putrefaction and decay. The direct cause appeared to be superoxidation of the micro-organisms. So far back as 1877, Dr. Downes, in conjunction with Mr. Blunt, had noticed this effect of violet light, but the subject had since then been investigated by Tyndall, Pringsheim, Schloesing, and Muntz, Warrington, and others. Recently Professor Duclaux has shown that spore-forming bacilli are less affected by sunlight than micrococci, the latter perishing in eight days when in the dry state, and in forty days when in the moist condition. The asco, or pellicle-forming, bacteria are least affected by light.

MM. Nicati and Rietsch have made some experiments, from the results of which they have come to the conclusion that in the "pure cultivations" of the comma bacillus poisonous alkaloids are generated. They may be separated by the processes usually employed in the extraction of alkaloids from their solution and admixture with other bodies. These investigators are now endeavouring to elucidate the question as to the conditions under which these ptomaines are developed, and whether or not their production invariably takes place in the "pure cultures" of the comma bacillus. If the latter be the case the inoculation with pure cultures produces effects which cannot be altogether due to the micro-organisms.—(*Journal de Pharmacie et de Chemie*, Vol. XII., No. 7. New Series.)

Pertinent to the researches of Nicati and Rietsch, are the

elaborate investigations of Armand Gautier, described in a paper read before the French Academy of Medicine (*Moniteur Scientifique*, March, 1886). He states that during the physiological or bacterial destruction of the animal tissues the following, amongst other ptomaines, are developed:—Parvolin, hydrocollidin, neuridin, cadaverin, putrescin, saprin, and mydalein. Of these putrescin, cadaverin, and saprin are not poisonous. From putrescent fish an alkaloid identical with muscarin is procurable. The bacillus which Eberth believes to be the *materies morbi* of typhoid fever does not produce putrefaction in liquids, but it seems to develop an alkaloid which produces fatal effects on animals, causing dilation of the pupils and severe diarrhœa.

Dr. Grancher, in April, 1885, read a paper before the Société de Médecine Publique of Paris, in which he stated that at a temperature of 106° Cent., and in a moist condition of the air, microbes are completely destroyed, though deeply embedded in mattresses. When air is dry a much higher temperature is necessary to destroy micro-organisms.

E. de Freudenreich has examined for micro-organisms the air of lofty situations—from 2,000 to 3,000 feet above the sea—and has found very few present (*Biedermann's Centralblatt für Agrikultur Chemie*, Vol. XV., Part 2). This accords with Frankland's experience of the air in the higher Alps.

M. Miquel tells us, as the result of five years' observations at Montsouris, that the average number of micro-organisms in a cubic metre of air in that place was as follows:—In spring, 495; in summer, 650; in autumn, 380; and in winter, 260. The maximal number, 700, was found in July, and the minimal, 165, in February. According to the same observer the average number of organisms in the air of Paris (Rue de Rivoli) was 3,480. These numbers appeared to be reduced by efficient scavenging of the streets, and to be smaller when the zymotic death-rate was lowest. M. Miquel made some observations on the air of London, in which, during the month of June, he found only 240 micro-organisms per cubic metre. This salubrious state of the atmosphere he attributes to the moderate height of the houses, permitting the free access of pure air to the streets, and also to the nearness of London to the pure air of the ocean. It is startling to be told that as many as 97,000 organisms per metre of air have been found in the Paris Hospital, La Pitié, whilst there is but a solitary microbe per cubic metre in the air of the ocean or the mountain.

Dr. Percy F. Frankland has investigated the subject of the relative numbers of aerial micro-organisms in town and country air, and has found them more numerous in the former. He ascertained that on the average 85 micro-organisms fall per minute on each square foot of ground.—(*Proceedings of the Royal Society*, May 27, 1886.)

MM. Cadéac and Malet have studied the action of destructive agents on the virus of glanders. The mere projection of a stream of boiling water upon it does not destroy its vitality, that object being only accomplished by two minutes' immersion in boiling water, or five minutes in water at 80° Centigrade. Occasionally it was found that five minutes' immersion in water at from 70° to 73° C. destroyed the vitality of the virus. Placed in the centre of a "humid chamber" (chamber with air saturated with moisture) the virus retains its virulence for a long time. Desiccated at 31° C. it remains after six days active, but exposed for the same period to the action of the free atmosphere it becomes inactive.—(*Comptes Rendus*, August, 1886.)

The report of Messrs. Crookes, Odling, and Tidy on the London water supplies, for June last, is more than usually interesting. They say, in reference to fever germs in water—

"In the investigation of so extensive and still novel a subject, we have found it necessary to limit ourselves to an attempt at the solution of one or two special points only; and the inquiry, even thus limited, has involved us in a more than anticipated amount of experimental work. Our inquiry is indeed, even yet, far from complete; but certain results have been obtained which seem sufficiently definite to warrant our publication and discussion of them in this and succeeding monthly reports.

"Leaving to others the mere determination of the relative numbers of innocuous and presumably beneficent forms of microbe life present in different examples of water-supply, we have attempted to find out something in respect to the conditions necessary for the continued existence, development, and propagation in water, otherwise wholesome, of extraneous morbid forms purposely introduced therein, with a view to learn how far such introduced forms thrive and increase, or dwindle and die out in their environment of wholesome water, and how large or otherwise is the extent of pollution to which water must be subjected in order to allow of the introduced morbid microbes sustaining their existence therein for more than a few hours. Taking advantage of the experience common to all workers in bacteriology, as to the advisability of simplifying the experimental conditions as much as possible, and as to the paramount necessity of dealing with some one or other isolated form of

microbe apart from all other forms, our investigations have been conducted almost exclusively with the particular micro-organism characteristic of splenic fever, and known as *bacillus anthracis*.

“The mode of experimenting we have usually resorted to is as follows:—Different sorts of wholesome water were infected with a greater or less proportion of proteid liquid laden with this particular bacillus. The so-infected water having been kept at varied known temperatures for a greater or less number of hours, portions of it were added to sterilised culture-fluid or culture-jelly, and observation was made as to whether or not there occurred in the culture medium a consequent growth of bacillus.

“The general result was as follows:—Water which had been infected within a few hours only was found to possess the property of setting up a characteristic growth of bacillus in the culture medium to which it was added, whereas the same infected water, after it had been kept for some time longer, was found to have lost altogether this particular property. Or to state the result in another way, the existence of *bacillus anthracis* in water purposely infected with the bacillus, though abundantly evident within a few hours of the infection, was not recognisable after a longer interval.”

Dr. Percy Frankland, in a letter to the editor of the *British Medical Journal*, July 31, 1886, commenting upon Messrs. Crookes, Odling, and Tidy's report, mentions that three papers bearing on the subject have recently been published. Two of these were published in Germany by Drs. Wolffhügel and Meade Bolton, and one in England by Mr. Frankland. In the latter (which was read before the Royal Society) the subject of “Multiplication of Micro-organisms in Water” was treated at considerable length. The method of experiment consisted in impregnating gelatine with certain pathological organisms and watching their development. The micro-organisms employed were Koch's Asiatic cholera “comma” bacillus, Finkler-Prior's European cholera “comma” spirillum, and the bacillus pyocyaneus, which is the cause of the green colouring matter sometimes noticed in abscesses. The last-named is the most persistent in water. Mr. Frankland found them in distilled water fifty-three days after their introduction into that vehicle, and in increased numbers. One day's immersion in water sufficed to destroy the European cholera comma bacillus, but its Asiatic congener survived in pure water for nine days, and in London sewage it was found twenty-nine days after its introduction. It was noticed that when micro-organisms not usually found in water are introduced into that liquid a large proportion of them

speedily perish, but a greater or less multiplication of the survivors subsequently occurs. Messrs. Crookes, Odling, and Tidy have remarked that the bacillus anthracis is readily destroyed by London pipe water; but Frankland points out that the spores of the anthrax bacillus are much more persistent, and may retain their vitality for ninety days, even in pure water. Meade Bolton asserts that even the mature anthrax bacilli can exist in polluted well water for upwards of ninety days; and, according to Wolffhügel, these bacilli, when placed in polluted river water (that of the river Pauke, in Berlin), diluted tenfold with distilled water, multiply extensively.

Professor Koch (*Med. Wochenschrift*, 1885, No. 37) states that large numbers of micro-organisms in water is a proof of the admixture of putrescent organic matter in it. The microbia will be mainly harmless, but they may include some pathogenic species. So far as his observation extends it would seem that in a cubic centimetre of good water there are from 10 to 150 germs capable of development. If the number reach 1,000 the water is unfit for drinking, especially during the prevalence of cholera. Dr. Link (*Archiv Pharmacie*, quoted in *Chemiker Zeitung*) dissents from Koch's views, and maintains that waters which by chemical means are proved to be very free from organic impurities often swarm with microbes, whilst obviously polluted waters contain sometimes very few organisms. Link concludes that, for at least the present, the fitness of water for potable purposes must be determined by chemical and not by biological methods. Might not the latter usefully supplement the former?

Animal charcoal and spongy iron completely sterilise water; but when a charcoal filter is long in use it actually renders the water passed more impure than it was before.

A valuable *resumé* of recent advances in our knowledge of bacteria, fungi and other micro-organisms is given in the *Jahresbericht über die Fortschritte in der Lehre von den pathogenen Micro-organismen, Bakterien, Pilze, und Protozoen*. It is the work of Professor Baumgarten, of Königsberg, is published by Havalb Bruhn, of Brunswick, and costs 5s. Dr. Crookshank's work on Bacteriology, just published, is also of great interest to all who study micro-organisms.

SCARLATINA SPREAD THROUGH MILK.

From the end of November, 1885, until early in the present year many of the consumers of milk supplied from a dairy farm at

Hendon suffered from scarlet fever. Some of the patients were in South Marylebone, others in St. Pancras, and a large number resided at St. John's Wood. Dr. Winter Blyth having pointed out the coincidence between the distribution of the milk and the spread of the disease, an inquiry into the origin of the outbreak was ordered by the Local Government Board, and carried out by Mr. W. H. Power, Local Government Board Inspector, and Dr. Cameron, Medical Officer of Health for Hendon. They found that many persons at Hendon, who had drank milk from the suspected dairy, had suffered from scarlatina. They further ascertained that a number of the cows on the dairy farm had a rash on their teats and udders, which they had apparently contracted from two calves which had been imported from Derbyshire. It would appear probable that the disease was the bovine form of scarlatina, and that the *materies morbi* of it had got into the animals' milk, which latter, on being drank, produced in man the ordinary human scarlet fever.

The medical officer of the Local Government Board commissioned Dr. Klein to investigate the pathological condition of the cows. Dr. Klein's report is intended to form an appendix to the next or Fifteenth Report of the Local Government Board, but it is given very fully in the *Practitioner* for August, 1886. It is an elaborate one, and the author's conclusions, though in some respects wanting in certainty, are full of interest and promise. It appears that Dr. Klein detected on the teats and udders of several of the cows on the dairy farm at Hendon, flat irregularly-shaped ulcers varying in size from one-fourth to three-fourths of an inch in diameter. They were covered with brownish or reddish-brownish scabs, which on being removed exposed granulating and slightly indurated bases. The margins of the ulcers were not elevated, nor was the skin surrounding them reddened. It was noticed that the ulcers originated in small vesicles, which appeared on a greatly swollen and red teat, and in two days assumed the appearance above described. As a rule, the teats were the seat of the ulcers, but they were observed in some of the cows on the lower part of the udder, but not numerous; occasionally patches of skin denuded of hair were observed on various parts of the skin—notably on the back and tail. On the patches the cutis was more or less thickened and the epidermis scaly. The animals were thin, but their temperature was normal, and their appetite good, and even ravenous. One of the affected animals was killed. On opening

its chest numerous petechiæ were observed in the upper posterior lobes of both lungs under the pulmonary pleura, the peripheral lobules of those parts being much congested. There were numerous adhesions between the lower lobes of the lung and the costal pleura. There were reddish and softened patches on the liver, extending inwards from the surface of that organ about half an inch. The spleen and kidneys were only slightly congested. Another animal was killed, but the *post mortem* appearances did not differ much from those noticed in the first animal.

Dr. Klein inoculated two calves with the matter scraped from the uncovered ulcers on the cows' teats. The matter was introduced at several points into the skin of the groin and inside the ear of the calves. The incision made was about half an inch in length, passing obliquely into the superficial part of the corium, producing a pouch into which a particle of the infective material was rubbed. After a few days ulcers made their appearance at many of the points of inoculation, and Dr. Klein found that they presented the same characteristics as those observed in the ulcers on the cows.

An attempt to produce the ulcers in guinea-pigs failed, although ten animals were operated upon. A trial was made with three dogs, in one of which only an ulcer was produced. A minute microscopic examination of the ulcers produced by inoculation in the calf proved their absolute identity with those of the cows.

Amongst the pus cells in the ulcers Dr. Klein observed numerous dumb-bells of micrococci (or diplococci), some of them in short chains. They were equal in size to the micrococci of foot and mouth disease. They were found in large numbers in the crust of the ulcer, in which also, and in the necrotic parts of the ulcer, numerous clumps, or zooglœa of micrococci were found.

Matter from the deeper part of an ulcer was cultivated in solid gelatine or Agar-Agar mixture, in both of which a peculiar micrococcus made its appearance. In the gelatine, after from three to six days' incubation, at 20° Cent., small whitish points or granules appeared, which within a few days increased in size and number, and covered the surface of the gelatine with a film. Placed in the interior of the gelatine the inoculating matter does not liquefy it, but appears as whitish streaks made up of droplets of unequal size. Placed in Agar-Agar mixture or in serum the inoculating matter develops itself in the same way as in gelatine. Dr. Klein considers that the general appearance of this growth is

similar to that presented by the streptococcus connected with foot and mouth disease, excepting that the latter is more rapidly developed and its component granules are more separated from each other. That they are not identical is, however, shown by their action upon milk. Introduced into that liquid the microbe of foot and mouth disease does not affect its liquid condition, whilst the micro-organisms from the ulcers on the cow's teat, incubated in milk at 35° C., convert the liquid into a solid in forty-eight hours.

Dr. Klein ascertained that there were no streptococci in the milk in the udder of a diseased cow; but in the milk drawn from a teat affected by ulcers the micro-organisms were detected, having been introduced into it by the act of milking.

A cultivation of this streptococcus (a third sub-culture) in Agar-Agar mixture was subcutaneously introduced into the groin of two calves. Twenty-seven days afterwards one of the calves died, and was subjected to a close examination. The subcutaneous tissue at and around the seat of inoculation showed much effusion, and the inguinal glands were red and swollen. There were peritonitis, sanguineous exudation, congestion, and hæmorrhagic spots on the omentum and in the serous coats of the stomach. The liver, lungs, kidneys, and surface of the ileum were much congested, and the spleen appeared to be small, and had its capsule thickened. The mesenteric glands were enlarged and hyperæmic. There was pericarditis, and coagulated blood filled and distended the heart.

The second calf was killed thirty-five days after inoculation. The *post-mortem* appearances resembled those noticed in the calf that had died, and the cow above referred to. In all the animals the most characteristic appearance was the diseased condition of the lungs. They were so highly congested as to be almost solid, and they had a deep-red colour.

The heart's blood of one of the calves was examined for organisms, and when stained with Weigert's gentian violet, a few diplococci and some chains were observed. Cultivations of this blood in Agar-Agar mixture were made, and resulted in the development of streptococci clearly identical with those found in the ulcers on the cow's teats.

Dr. Klein considers that the disease produced in the calves by the inoculation above described, "in many respects bears a close resemblance to human scarlatina." A comparison of the sections of a kidney of one of the calves and the kidney in an acute case of scarlatina in man showed "no difference whatever."

These researches of Messrs. Power and Klein appear to prove all but to an actual certainty that milk may become the vehicle and feeding-ground of an organism capable of producing scarlet fever when introduced into the bodies of human beings.

SATURNINE GOUT.

Dr. G. Lorimer, in the *British Medical Journal*, has given the results of his observations of 107 cases of gout of which he believes "lead impregnation" was the predisposing cause. He considers that the characteristics of gout due to *plumbism* are, as a group, distinct from gout due to other causes. The disease appears at an earlier period of life, the majority of cases of first attacks occurring before the age of thirty-five. Owing to the early age at which the patients contract the disease it generally assumes the acute or asthenic form of arthritis. In the majority of the 107 cases the type of the arthritis was asthenic or adynamic. In ordinary gout the blood corpuscles undergo no change either in number or quality; in the saturnine gout there is generally anæmia as a result of lead-cachexia.

In 89 out of the 107 cases albumen was present in the urine, either intermittently or permanently. Garrod has found albumen present in 26·5 per cent. of the cases of gout which he investigated. Albuminuria has been noticed in chronic lead poisoning by Ollivier, Charcot, and Gumbolt.

In saturnine gout the specific gravity of the urine averages 1,012; it contains less uric acid than normal urine, and in the final state of the disease the uric acid disappears. In 69 instances arterial thickening and degeneration was noticed. In the advanced stages of the disease cardiac hypertrophy was commonly noticed. The *modus operandi* of the lead in effecting these changes is obscure; but it may, in part at least, be due to the contraction of the muscular walls of the arteries increasing arterial tension. In only two instances did Dr. Lorimer notice skin disease in connection with saturnine gout. In non-saturnine gout eczema is present in 18 per cent. of the cases.

The author found the *blue line* upon the gums in 87 of his cases. In cases of gout this sign should always be looked for. In 28 cases the joints of the feet were affected; in 7 of these the great toe alone was involved. In 20 cases the hands were the parts attacked. In 34 cases both feet and hands were affected. In 4 cases the knees and elbows were the seat of the disease; and in the remaining

21 cases the knees alone were implicated. In 23 of the patients tophaceous deposits were found on the helix of the ear. Saturnine gout seems specially to attack the kidneys.

There appears to be a large amount of disease and a high rate of mortality amongst the operatives in whitelead and whitelead paint works, which seem to have attracted but little attention from the authorities of these countries. It is time that the hygiene of these works should be officially investigated.

SALICYLIC ACID AS A FOOD PRESERVATIVE.

The subject of the use of salicylic acid as a means of preserving food from putrefactive changes is now occupying the attention of the French authorities and sanitarians. It is alleged that the constant use of this acid depresses to a dangerous extent the cardiac action, and, consequently, the French authorities, believing this statement, have prohibited its use as a food conservative. It is alleged that it is still met with in beer at Paris in the proportion of 0·2 per litre (14 grains per gallon). It is also said that the Bavarian brewers send to France a large quantity of ale preserved by salicylic acid—a statement which the Munich brewers indignantly repudiate. It is, however, a suggestive fact that the German authorities permit salicylic acid to be used in beers for exportation, whilst in those intended for home consumption its use is interdicted. So far as my experience goes, I have found salicylic acid much used in preserving cream and other easily perishable foods, and I find it largely present in ginger, orange, &c., wines, clearly with the view of economising the amount of alcohol hitherto found necessary to prevent the sugar in these wines from fermenting.

SALOL—A NEW ANTISEPTIC.

In *La Semaine Médicale* of April 14th, 1886, an account is given of a new antiseptic, described by M. Sahli at a meeting of the Medico-Pharmaceutical District Society of Berne. The compound was first prepared by Professor Nencki, and it is claimed for it that it possesses decided advantages over other bodies of the same general nature in the treatment of rheumatism and as an antiseptic. Salol is a white crystalline powder, somewhat deliquescent, with an odour resembling that of oil of winter-green. It is soluble in alcohol, but practically insoluble in water, which seems rather a drawback to its application in many cases as an antiseptic.

Nencki considers that salol is superior to salicylate of sodium,

for which it is proposed as a substitute, and for the following reasons:—First, it is insoluble in water and the juices of the stomach, and, therefore, does not produce the nauseating effects which so often attend upon the administration of the sodium salicylate. Second, it passes unchanged through the stomach, and entering the duodenum, comes into contact with the pancreatic juice, and is thereby decomposed into salicylic acid and phenol, which then are in a condition to be absorbed into the circulation and to produce their well-known antiseptic action.

The dose of salol is 30 grains, taken three or four times daily. Sahli claims to have found it highly efficacious in rheumatism, typhus and intermittent fevers, otorrhœa, and various skin affections.

Mr. John Moss, F.I.C., at the British Pharmaceutical Conference, held at Birmingham on the 31st August, 1886, made some observations on salol. He believes that it is a salicylate of phenyl. It contains 36 per cent. of phenyl, equivalent to 94 per cent. of carbolic acid.

ACTION OF DISINFECTANTS.

Professor Bulstein, in a paper read before the St. Petersburg Technical Society, states that lime and its compounds should not be used for disinfecting purposes, as they only temporarily destroy bacteria, and, under certain conditions, may actually favour the development of the lowest organisms. The Professor has but a poor opinion of the efficacy of iron salts, which for many years have been favourite disinfectants in the case of sewage. His favourite germicide is the acid sulphate of aluminium, prepared by adding 4 per cent. of sulphuric acid to red clay. Sulphuric acid itself is an excellent destroyer of dangerous organic matter, and its cheapness is in its favour. Its destructive action on metals and cements limits its application very much.

According to Bucholtz the following quantities of acids are required to prevent the development of bacilli in certain nutritive media:—

Sulphuric acid	-	-	-	1 part in 1,515
Benzoic acid	-	-	-	1 part in 1,000
Carbolic acid	-	-	-	1 part in 300

INFLUENCE OF TEREBENE ON FERMENTATION.

Dr. Murrell, in a lecture recently delivered at the Westminster Hospital, has given some interesting information in reference to

the power exerted by pure terebene in arresting fermentation. A 2 per cent. solution prevents fermentation in the well-known hay infusion. One part added to 450 parts of solution of sugar and yeast prevented fermentation for several days, and in the end only a small quantity of the sugar was decomposed. This substance also retards lactic fermentation in a very marked manner. The anti-fermentative property of terebene suggests its employment in the case of those who suffer from flatulency, foetid eructations, acidity of the stomach, &c.

Terebene is an isomer of turpentine—that is, both are composed of the same elements in the same relative proportions, but having different molecular constitutions. It is prepared by treating turpentine with a little sulphuric acid, allowing the mixture to stand for a few hours, and then distilling at a temperature not exceeding 160°C . The distillate consists of terebene and cymene, and they are separated by repeated fractional distillations, the former boiling at 150°C . and the latter at 175°C .

Terebene has an odour resembling that of thyme, but the odour is faint. The liquid is colourless, and a ray of polarised light has no effect upon it, by which it may be readily discriminated from turpentine. It is not improbable but that terebene may soon be substituted for carbolic acid in antiseptic surgery.

ON THE NECESSITY FOR OBSTETRICAL DISINFECTIONS IN MATERNITIES.

In the *Annales et Bulletin de la Société de Médecine de Gand* (Vol. LII., du Bulletin), Dr. de Pauw gives an analysis of Dr. de Backer's treatise on the above subject. According to Pasteur, puerperal fever is caused by a microbe. Recognising the value of hygienic measures as a means of reducing the mortality in maternities, the authorities of those institutions in Paris have adopted them, and with marked success.

Dr. de Backer, in treating of the antiseptics used in obstetrical practice, gives a decided preference to sulphate of copper, and claims for it the following advantages:—That it is absolutely inoffensive to the patient, that its price is moderate, that it is easily managed, and that its action is rapid. Used as an injection it may be introduced into the vagina or uterus with perfect safety. As it possesses astringent power and coagulates albumen, it may be employed as an excellent substitute for the perchloride of iron. The strength of the solution recommended is 1 part in 100, and

the solution is to be heated to 36° to 38° Centigrade. Its use may be continued for the first eight or ten days, the application to be repeated several times daily, and is only to be discontinued when the improvement in the condition of the patient is rapid and incontestable.

In a paper contributed by Dr. Lucien Britte to a recent number of the *Nouvelles Archives d'Obstétrique et de Gynécologie*, an account of a large number of fatal cases of poisoning resulting from vaginal injections of corrosive sublimate is given. As even very dilute solutions produce toxic effects, the use of corrosive sublimate as an antiseptic in obstetrical practice appears objectionable.

PURIFICATION OF WATER.

A Russian chemist, Dr. F. K. Ziemlicki, has made a series of experiments with the view of determining the simplest, most economic, and most effectual way of purifying water rendered turbid by earthy or organic matter. He has come to the conclusion that an impure water may be rendered potable by adding to every 12·3 litres (a pail) of the water 0·434 gramme of ferric chloride (perchloride of iron) and 0·667 gramme of crystallised carbonate of sodium. In forty-five minutes the precipitation of the offensive matter from the water is completed. In this case the salts added to the water react as follows:— $\text{Fe}_2\text{Cl}_6 + 3\text{Na}_2\text{CO}_3 = \text{Fe}_2\text{O}_3 + 6\text{NaCl} + 3\text{CO}_2$. The peroxide of iron thus formed is precipitated and carries down with it the solid matter suspended in the water.

The use of alum for purifying water containing excessive quantities of organic matter is well known. Attention has recently been strongly directed to this water-purifier by Professors Peter J. Austin and F. A. Welber, in the *Textile Colourist*, an American publication. They found that a water was rendered colourless, clear, and brilliant, by the addition of 2 grains of alum per gallon, or one part of alum to 35,000 parts of water.

Alum is a double sulphate of aluminium and potassium. When mixed with water containing organic matter the aluminium oxide combines with and precipitates the organic matter, leaving the sulphate of potassium in solution.

There are several towns in Ireland in which the water-supply is much discoloured from the presence of peaty matter. It might be found practicable to treat such waters with alum. The process is simple and very cheap, and it is worth a trial. I have recently

applied this process to the water supply of Maryborough Gaol, and with complete success.

LEUCOMAINES.

M. Gautier claims to have discovered in the living organisms alkaloids to which he has given the name of physiological alkaloids, or leucomaines. They are pathological products, the results of mal-assimilation and other causes. These alkaloids, accumulating in the blood, kidneys, skin, and other organs, produce self-infection, and give rise to various maladies. These views of Gautier have received support from the eminent Professor Peter, of Paris. Dr. Vanden Corput, whilst acknowledging the great merit and importance of M. Gautier's investigations, claims the idea of alkaloids generated in the living tissues. He says that in a paper on the ætiology of cancer, published in 1883, he suggested that the disease arose from a primary alteration in the blood, giving rise to morbid products.—(*Bulletin de l'Academie Royal de Médecine de Belgique*, Tome XX., No. 5, 1886).

Panum and other physiologists and pathologists have, in language more or less precise, expressed a belief in the formation of morbid nitrogenous substances in the blood being the cause of disease.

POISONING BY ICE CREAMS.

The number of cases of poisoning—some terminating fatally—from eating the cheap ices and ice creams vended in the streets, steadily increases. The most usual symptoms are severe vomiting and diarrhœa. These cheap creams have been examined by several chemists, and several poisonous bodies have been detected in them. "Vanilla ice" has been found to contain lead and zinc—no doubt they had been dissolved from vessels in which the ice cream had been prepared by the fruit acids acting as solvents; arsenic in poisonous anilin colour is sometimes present. Nitrobenzole and other bodies used as flavouring ingredients are, if used in excess, poisonous; but vanilla itself is perfectly harmless. The milk used may occasionally be in a decomposed state, and be the seat of ptomaines, such as the poison (tyrotoxicon) which occurs in putrid milk and in rotten cheese.

Dr. Victor C. Vaughan, Professor of Physiology in the University of Michigan, isolated tyrotoxicon, and has described his process in the "Annual Report of the Michigan State Board of Health

for 1885." The coagulated stale milk is filtered through Swedish filtering paper, the filtrate rendered fairly alkaline, and shaken with ether. The ethereal solution separates on standing, is removed by a pipette, filtered and allowed to evaporate spontaneously, whereupon the tyrotoxicon is left as a crystalline substance. It may require re-solution, and putrefactive tyrotoxicon produced in Dr. Vaughan symptoms (vomiting and diarrhœa and pains in the back and bones) similar to those from which a number of persons suffered after partaking of ice cream at Lanton, Michigan. The exact composition of tyrotoxicon and the precise conditions under which it is generated remain to be determined.

DIGESTIBILITY OF CORNED BEEF.

There is a prevalent notion that salted meat is not so nutritious as the same weight of fresh meat. Dr. Smetzky, a Russian chemist and hygienist, has made some experiments, the results of which do not conform to the popular idea of the innutritious qualities of corned beef. This observer found that in the case of beef twelve months corned the amount of nitrogenous bodies in a condition incapable of being assimilated was, on the average, 4·41 per cent., the maximal amount being 6·7, and the minimal 2·5 per cent. According to Ranke—a great authority—the amount of non-digestible nitrogenous matters in fresh beef is from 5·4 to 12·3 per cent.

Dr. Smetzky gives several analyses of corned beef. The composition which he ascribes to some of them is remarkable, the proportion of fat being exceedingly low, and that constituent being absent in two of them. It is difficult, even by chemical means, to extract fat completely from meat, and in the corned meat sold in this country the proportion of fat has often exceeded 10 per cent.

POISONOUS METALS IN TINNED FOODS.

The *Sanitary Record* for July, 1885, contains an account of the poisoning of six persons at Nottingham, caused by eating tinned beef. Vomiting and diarrhœa were the prominent symptoms in the cases, none of which terminated fatally. The meat was analysed, and nothing of a poisonous nature was detected in it, with the exception of salt of tin. It was evident that the tin had been derived from the metallic vessel in which the meat had been preserved. Dr. Winter Blyth has shown that canned fruits often contain tin in rather large quantities.

Dr. Dimitri Riabtchevsky, a Russian chemist, has quite recently found lead in 14 out of 20 specimens of tinned food. He calculates that in some of the foods the quantity of lead was so considerable that a dinner ration of them would contain lead equivalent to 1.197 grammes of neutral acetate of lead.

TOXITY OF COPPER.

In a former Report I gave an abstract of the experiments made by M. Galippe, from which he inferred that the quantities of copper occasionally met with in food were innocuous. This subject has been discussed at considerable length by the Royal Academy of Medicine, and the Academy, after a long debate, came to the conclusion that the compounds of copper were not only useless additions to food but that they were positively injurious. The resolution was ordered to be reported to the Government. During the debate Dr. Du Moulin made a long statement in support of the affirmation that the presence of copper in the amounts met with in the food of commerce is not inimical to health.

COMPLETE COMPOSITION OF A WINE.

A cheap wine, termed Brût-Royal Saumur, is now largely consumed. It is a species of champagne, and makes an excellent "champagne cup." I have made an extremely elaborate analysis of this wine, the results of which are sufficiently interesting for publication, as the analyses of wine given in the books are generally very meagre in details :—

1.	Specific gravity of wine	...	...	...	...	•9914
2.	„ „ minus alcohol	...	...	...	...	1.0084
3.	„ distillate found	...	...	...	...	•9827
4.	„ „ calculated	...	...	...	...	•9831
<i>Percentage by weight of absolute alcohol.</i>						
5.	In wine. According to (3)	...	...	...	...	10.8800
6.	„ According to (4)	...	...	...	...	10.5900
7.	Total free acids, calculated as acetic acid	...	...	...	...	•6000
8.	„ volatile acids „ „	...	...	...	...	•1290
9.	„ free fixed acids, calculated as tartaric acid	...	...	...	...	•5890
10.	Real tartaric acid, free	...	...	...	...	•1730
11.	Bitartrate of potassium, precipitated with alcohol	...	...	...	...	•1790
12.	„ „ actually present, corresponding to carbonate of potassium in ash	...	...	...	...	•1030

13. Total real tartaric acid, calculated as free	...	...	•2140
14. Mallic acid	...	...	•0860
15. Tannic acid.	Extremely faint trace.		
16. Sulphuric acid in combination in the wine	...	...	•0140
17. Alcohol in fixed ethers	...	...	•0110
18. „ volatile ethers	...	...	•0610
19. Total alcohol in ethers	...	...	•0720
20. Maximal theoretical amount of alcohol present as ethers in the wine when matured	...	...	•0930
21. Percentage of calculated alcohol in ethers, actually found	77•2500		
22. Total solids in the wine, corresponding to specific gravities	1•9600		
23. Total solids actually found	...	...	1•9900
24. Organic matter	...	...	1•8500
25. Inorganic matter	...	...	•1400
26. Sugar	...	...	1•6110
27. Albuminoids	...	...	•0650
28. Ammonia, free	...	...	•0020
29. Carbonate of potassium in ash	...	...	•0380
30. Sulphates, chlorides, and soluble phosphates in ash	...		•0620
31. Phosphates and carbonate of calcium in ash	...	...	•0400

ACTION OF DRUGS UPON THE MOVEMENTS OF THE STOMACH.

DR. SCHÜTZ has carried out, in the University of Prague, an extended investigation into the action of drugs upon the movements of the stomach, and makes of them 5 pharmacological groups:—1. Excitants of the automatic centres (*i.e.*, the spontaneous movements become more lively, and assume an atypical character)—Emetin, tartar emetic, apomorphin; and in a lesser degree, strychnin, caffenin, veratrin, barium chloride, and nicotin and pilocarpin in small doses. 2. Excitant of the nerve endings (*i.e.*, general contraction of the stomach occurs)—Muscarin. 3. Increase of the excitability of the muscular coat (*i.e.*, finally a general and lasting contraction of the stomach is produced)—Physostigmin, digitalin, scillaïn, helleborein. 4. Paralysis of the automatic centres. Enfeeblement of the movements was observed after poisoning by chloral, urethan, morphin, pyrophosphates of zinc and arsenium, as well as after large doses of nicotin and pilocarpin. 5. Atropin can paralyse the nerve endings. Ether and chloroform vapour annul the excitability of the whole nervous apparatus of the stomach, but only so long as they operate. Ordinary inhalation-narcosis has no perceptible influence upon the movements of the stomach.—*Archiv für exper. Path. und Pharm.*, 1886.

PART IV.
MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ACADEMY OF MEDICINE IN IRELAND.

President—ROBERT M'DONNELL, M.D., F.R.S.

General Secretary—W. THOMSON, M.D.

OBSTETRICAL SECTION.

President—T. MORE MADDEN, M.K.Q.C.P.

Sectional Secretary—WILLIAM C. NEVILLE, M.D.

Friday, May 7, 1886.

The PRESIDENT in the Chair.

Intra-uterine Polypus.

DR. BYRNE exhibited a small intra-uterine polypus lately removed from a pluripara, aged thirty-seven, under his care in St. Vincent's Hospital. The dilatation of the cervical canal was commenced with sea-tangle tents and finished by Hegar's dilators, and the polypus was removed by an écraseur.

Adjourned Discussion on Dr. W. J. Smyly's Paper "On the Curette in the Diagnosis and Treatment of Intra-uterine Disease."

DR. ATTHILL said that some years since he had been stoutly opposed to the use of the curette. Now, however, he had changed his opinion, as well as others which he formerly entertained. He now looked on the curette as a most useful instrument, and freely employed it in many cases. The principal question was, ought they to use the curette as a diagnostic means without previous dilatation of the uterus, or ought they to dilate the uterus first and use the curette afterwards? He believed, however, that the instrument was appropriate only to a certain proportion of cases, but not to all. He would instance the case of a young lady, aged twenty-two or twenty-three, whom he was attending. She was a member of a delicate family, and had been for some weeks under his care for

menorrhagia. Her menstruation occurred too frequently, and there were discharges of small quantities of blood during the intervals between the periods. He had been treating her both locally and constitutionally, without having as yet effected a cure. He would like to know what was going on inside the uterus; but what was he to do? Her uterus would not more than admit the point of an ordinary probe. Any dilatation should be to the extent of at least No. 7 or No. 8 of Hegar, but so painful an operation could not be done without anæsthetics. If it were done, and the curette introduced, he might, nevertheless, fail to find the portion of the surface from whence the bleeding was proceeding, and the friends of the patient would be sure to be dissatisfied with such a result of the operation. The case, then, was one unsuitable for the curette. On the other hand, if the patient were a woman who had had several children, and who had a patulous cervix through which a finger could be thrust, if she were suffering from a thickened and unhealthy mucous membrane a small curette might be introduced without any anæsthetic, and the bleeding part removed. Generally there should be dilatation first, and then the use of the curette; but there were cases in which the curette, without previous dilatation, as a diagnostic process was justifiable and advisable. In many cases it was impossible by any digital examination to ascertain what the exact condition of the fundus was. He believed that in no case for twenty years, in which there was hæmorrhage and in which he found no polypus, had he applied nitric acid without first using the curette. He agreed with Dr. Smyly that the curette *per se* was safer than dilatation. With a soft cervix dilatation was perfectly safe, provided antiseptic precautions were used. But there was danger in dilatation if attempted rapidly with a rigid cervix, neglecting antiseptic precautions. Most serious symptoms resulted from attempts to dilate the uterus where there was an exceedingly rigid cervix. He would almost prefer to divide the cervix in such cases. He had used Dr. Thomas' dull-wire curette, and found it quite useless. Dr. Smyly objected to the use of powerful caustics, for three reasons—namely, that they necessitated previous dilatation; that their action was rendered uncertain by the discharges; and that they destroyed the tissues. But for many years he (Dr. Atthill) had used nitric acid very generally without dilatation; and whenever he used the curette his practice was to apply nitric acid or some other agent at the end of four or five days, and through a canula. He now used intra-uterine injections frequently, though in his earlier lectures he denounced the introduction of any fluid into the uterus. He now considered it good and safe treatment if carefully applied. Hardly a week passed in which he did not use these injections, which were generally iodised phenol or iodine.

DR. BYRNE had frequently used the curette in the manner recom-

mended by Dr. Smyly, and so far had never met with any bad consequences. Usually he first dilated the cervical canal, and after the use of the curette applied fuming nitric acid to the intra-uterine surface. In certain cases, such as those described by Dr. Atthill, no preliminary dilatation was needed.

MR. DOYLE wished to know whether the portions of mucous membrane removed by the curette afforded sufficient grounds for arriving at a certain diagnosis? He had himself no experience in this line of treatment.

The PRESIDENT said there appeared to be a general consensus of opinion in favour of using the curette in the manner recommended by Dr. Smyly. Nevertheless, he wished to say that he dissented from the views which Dr. Smyly had so temperately put forward. He was of opinion that the curette was a very dangerous instrument and liable to great abuse, and one from which no diagnostic information could possibly be derived. He could see no therapeutic or diagnostic advantage to be derived from scraping a mucous membrane with the curette. Was such a therapeutic agency recommended in the case of any other mucous membrane in an inflamed state by way of soothing or relieving the inflammation? If the mucous membrane of the bladder were in a state of inflammation, he could not conceive that it would be relieved by scraping. He thought that the cases that recovered after the curette had recovered in spite of its use, and not in consequence of it; and that the beneficial results were due to the conjoint treatment that had always been adopted along with the curette. In Dr. Byrne's cases beneficial results had been produced, not by the curette but by the application of the nitric acid. Great weight was, however, due to the opinion of Dr. Atthill, who had become a convert to the use of the curette; but he (the President) had found nitric acid without the curette quite sufficient to cure the class of cases for which the latter had been recommended.

DR. NEVILLE said he concurred in Dr. Smyly's views as to the curette. There was considerable experience of the utility of scraping other mucous membranes besides that of the uterus. The scraping of granular eyelids was a very old and very efficient practice. Such treatment was founded on very rational grounds, and the amount of success which had attended it proved that it was good. He did not deny the utility of other methods of treatment. It was only by induction from a very large number of cases that they could settle whether the curette or nitric acid, or a combination of the two, was the best treatment. Preliminary dilatation was seldom needed for the use of a small or medium-sized curette, the cases for which the treatment was required being usually such as caused a pathologically-dilated cervical canal. In other cases all the required dilatation could rapidly be effected by a few of Hegar's dilators.

DR. SMYLY, in reply, said the points he laid stress on were the use of the curette in diagnosis, and its use as compared with other methods of treatment. Dilatation was not necessary in every case before applying the curette, although it might be in cases where polypus existed. The great majority of cases of hæmorrhage were connected with disease of the mucous membrane; and diagnosis by the curette should be limited, as far as possible, to the mucous membrane. He believed the curette to be a more accurate instrument of diagnosis than the finger. In all the cases mentioned in his paper he meant to convey that he removed mucous membrane.

Labial Hæmatoma.

DR. DILL read a communication on a case of labial hæmatoma. The patient was a primipara, aged twenty-one, and her labour had been completed without artificial aid. Shortly after delivery her medical attendant noticed a rapidly-growing tumour in the right labium. This tumour, when seen by Dr. Dill an hour subsequently, had attained a size somewhat larger than that of a large foetal head. On the internal surface of the tumour—*i.e.*, within the vulva—the finger came upon a thin membranous covering which immediately ruptured, exposing a huge cavity filled with a quantity of clotted blood. After removal of the clots the cavity was filled with pledgets of lint soaked in carbolic solution, and the whole made as secure and comfortable as possible. No further hæmorrhage resulted, and the patient gradually rallied from the shock, which had been very severe. The ecchymosis resulting from this hæmatoma extended round the buttocks, and as far down the right thigh as the knee; it also spread over the abdomen on both sides as high as the level of the umbilicus, and on the right side almost into the axilla. Frequent changes of dressings were required at first, and considerable comfort afforded by hot stupes and poultices. Hot antiseptic irrigations were employed twice daily at first, and the patient rapidly gained ground after the first fortnight, being finally completely restored to health. Dr. Dill had seen several cases of labial hæmatoma in his practice, but never one of the size recorded, nor one which had caused so severe symptoms in the way of pain and collapse.

DR. ATTHILL said these cases were generally divisible according as the blood was entirely poured out into the labial tissues, or those in which the hæmatoma burst and profuse external hæmorrhage ensued. Dr. Dill's case, he thought, was one of the former class, in which the blood was poured into the soft parts and coagulated there. It was remarkable for the very unusual size attained by the resulting blood-tumour.

MR. DOYLE and DR. HENRY KENNEDY having briefly spoken,

PROFESSOR DILL briefly replied, and

The Section adjourned.

MEDICAL SECTION

President—F. R. CRUISE, M.D.; President and Fellow, King and Queen's College of Physicians.

Sectional Secretary—A. N. MONTGOMERY, M.K.Q.C.P.

Closing Meeting, Friday, May 28, 1886.

DR. HENRY KENNEDY in the Chair.

Case of Cerebro-Spinal Meningitis.

DR. RICHARD A. HAYES read a short note of a case of cerebro-spinal meningitis, lately under his care at Dr. Steevens' Hospital. The patient, a constabulary recruit, aged twenty, was admitted on the evening of March 10th, 1886; he was stupid and did not appear to understand questions when put to him; his temperature was 104° F., pulse 120; he did not present any further symptoms, but there was a history given of his having had a chill that morning. At three o'clock next morning he was seized with vomiting, and shortly afterwards became delirious and so violent that he had to be kept under the influence of chloroform for some hours. When Dr. Hayes saw him at 10 a.m., he was quiet, but quite unconscious, lying with his head thrown back, his limbs flexed, and his arms over his eyes; he groaned loudly and appeared to suffer much pain when touched or moved; his temperature had fallen to 98° F. and his pulse to 90, it was irregular; his respiration rapid and shallow; tongue, white and furred; his pupils were of normal size; on his trunk and limbs was a slight purpuric eruption; nothing abnormal could be found in chest or abdomen. His head was shaved, and ice cap applied, and the nape of his neck blistered, he was ordered ol. croton \mathfrak{m} i., and ammon. brom. gr. 15, every fourth hour. He remained in the same condition during the day, the evening temperature rising to 102° F., pulse 110; as he showed signs of weakness he was ordered some whisky. Next morning he was partially conscious, and complained of pain in his head and in neck when pressed on; there were constant twitchings of the face, especially about the mouth; in addition to the purpuric spots there were now several crops of herpes, these being chiefly on the legs, about the knees; he remained in the same condition all day, but became restless at night; evening temperature 102° F. Next morning he was clearer, and said he felt better, and had less pain; temperature, 101° F.; pulse, quiet and more regular; rash, fading; evening temperature, 100° F. Next morning was much worse; temperature, 101° F.; pulse, 140, and weak; respirations 38; was again unconscious; twitchings of face very

marked; fresh crops of herpes on legs; ordered free stimulation; evening temperature, 102° F.; pulse, very weak; respiration exceedingly rapid, sometimes reaching 60. Next morning—temperature, 104°—he was evidently sinking fast, and died at 11 a.m. The total duration of his illness was four days.

No *post mortem* examination could be obtained.

The CHAIRMAN said the disease was much more prevalent a few years ago than of late.

The REGISTRAR-GENERAL FOR IRELAND (Dr. Grimshaw) regarded as a remarkable point in the case the condition of life of the patient—namely, that he was a recruit of the Royal Irish Constabulary. The last epidemic of any dimensions was in 1867, and in that epidemic a large number of the earliest cases occurred among the recruits at the Constabulary Dépôt, Phoenix Park, all of which had come under his care at Steevens' Hospital. In Cork-street Hospital also some 120 cases were admitted, and a good many of these cases he likewise treated. The cases in both hospitals differed in an important respect. Those at Steevens' Hospital were nearly all recruits of about six weeks' standing; on the other hand, those in Cork-street Hospital were very largely composed of children considerably below adult life. Then there was the remarkable result that a considerable number of the children recovered, whereas the recruits died. However, as he had mentioned at the outset, the real point arising was how it happened that recruits were so liable to this particular form of disease. Another point was that while a large number of cases occurred in the Constabulary Dépôt, there were very few instances during the epidemic in the city where more than one case occurred in any house. It was also noteworthy that in many of the other cases there was an absence of the purpuric rash.

DR. JOHN WILLIAM MOORE was surprised to hear the Registrar-General refer to the epidemic of 1867 as the last of any importance in Dublin, seeing that in 1885–86 a serious outbreak had been observed, and from one to four deaths were recorded weekly for some time—52 deaths being registered in 1885. Through Dr. Duffey's courtesy he had seen in the City of Dublin Hospital one of the first cases of cerebro-spinal meningitis last year. The phenomena were precisely the same as those observed in 1867. Dr. Duffey's experience was that the drug which did most good in controlling the symptoms was opium, or its active principle, morphine, which rendered the patient comparatively free from suffering. The brunt of the epidemic fell on the City of Dublin Hospital in the first instance, but as time went on he (Dr. Moore) saw its progress in three cases at the Meath Hospital, and also in a case in private practice. The great majority of the cases occurred in the suburban districts, chiefly in Rathmines, and in comparatively well-to-do persons, such as butlers and coachmen. The first case admitted to the

Meath Hospital came from the waterworks at Bohernabreena, and though the patient was an elderly man he recovered. The second was in the person of a young married woman, and she quickly succumbed; no *post mortem* examination could be obtained. The third he saw was at a farmhouse beyond Tallaght. The patient, aged between twenty-five and thirty, died within a few days of the attack. The presence of the disease at a time when rumours of cholera were in the air was a remarkable coincidence, because the cholera invasion of 1865 gave place in 1867 to the epidemic of cerebro-spinal meningitis. The question was in abeyance as to whether the disease was not really of zymotic origin—the virus being, perhaps, connected with that of cholera.

The CHAIRMAN said the first appearance of the disease recorded in the country in 1867 was in Loughlinstown Workhouse, where the late Dr. Darby drew attention to it, and subsequently it was noticed by Dr. Mayne in the South Dublin Union Workhouse. In Cork-street Hospital the majority of the cases were in young persons whose ages varied from eight to eighteen. His experience was that it was best to treat the disease actively, and especially by local leeching at the nape of the neck, and after that he gave calomel and belladonna, preferring the latter, applied as a liniment to the spine. Many of the cases ran a peculiar course—they did not die and did not get well, and in a week or six months afterwards the patients got crippled in their joints, which were attacked with pain on account of the terrible shaking the nervous system had sustained.

DR. BOYD said the rapidity of Dr. Hayes' case was remarkable. He had within the last fortnight himself received under his care two cases of cerebro-spinal meningitis in the Mater Misericordiæ Hospital. The symptoms were pain in the back of the head, stiffness, pain in the joints, and uncommonly high temperature. He found that leeching considerably mitigated the pain. As one of the patients complained of pain in the joints he considered rheumatism might have been the exciting cause. That patient, aged twenty or twenty-one, whom he treated with salicylate of sodium, made a rapid recovery. The other patient became quite delirious, and was that morning unconscious, with a temperature of 102°. The least touch excited paroxysms of pain.

DR. HAYES, in replying, said that although Dr. Boyd thought four days a rapid course for the disease to run, yet it appeared from several authorities that that was the usual period for cases to terminate fatally, while cases that did not terminate fatally ran on for a considerable time—six weeks and more. In reference to the treatment, it was of little use in his case. The patient was comatose, or semi-comatose, and did not appear to be suffering much, but the best was done to keep down the inflammation.

Primary Cancer of Bronchial Glands and Lung.

DR. M. A. BOYD read a paper on intra-thoracic cancer which he described as being met with in two situations—the bronchial glands, and anterior mediastinum. The former variety when it involved the lung was frequently in its advanced stages mistaken for phthisis, the latter for aneurysm. He read the histories of three cases which came under his observation last year in the Mater Misericordiæ Hospital with the *post-mortem* examinations made in each case. He regarded the symptoms described in standard works as indicating cancer—such as fixed pain in the chest, red currant jelly expectoration, and enlargement of cervical glands as unreliable, these symptoms not being present in a fourth of the recorded cases. He considered constant blood-spitting, with congestion of the larynx, and aphonia with or without paralysis of vocal cords, and urgent dyspnœa, as more reliable signs; and as indicating the situation of the growth in the bronchial glands, with pressure on the bronchial veins and tubes. He considered the primary form of the disease as much more frequent in these situations than secondary formations when the disease began elsewhere. His general conclusions with regard to the disease were, that it occurred most frequently in hard drinkers; that pain was not a frequent symptom until pressure on the nerves in the thorax took place; that constant blood-spitting with symptoms of pressure on the bronchial tubes and obstruction in the œsophagus indicated malignant disease involving the bronchial glands; that like malignant disease of the abdomen, with effusion of blood-stained serum into the peritoneal cavity, malignant disease of the thorax was frequently accompanied by pleural effusion containing blood; that the disease sooner or later invaded the pericardium, and compressed the superior vena cava, causing swelling of the face and upper extremity, and occasionally caused pressure on the recurrent laryngeal nerve, with paralysis of one or other vocal cord; that retro-sternal dulness, with displacement of the heart, and pressure on the cava, accompanied by paralysis of one or other vocal cord (aneurysm being excluded) was absolutely diagnostic of mediastinal malignant disease; that malignant disease of the bronchial glands in its latter stages (when the patients most frequently sought advice) accompanied by muco-purulent expectoration, mixed with blood, wasting, and night sweats, resembled phthisis so closely that *post mortems* were not made, and the frequency of the disease in consequence was lost sight of. The disease in his experience was fatal in from two months to eight—his three cases having died about six months after the disease first showed itself.

The REGISTRAR-GENERAL (Dr. Grimshaw) said Dr. Boyd's case was of peculiar interest to him, having regard to one which he brought before the Medical Society about the year 1870, illustrating some of the diffi-

culties of diagnosis. His case was that of a member of the medical profession whom he had had an opportunity of observing for nearly a year. Three of the most eminent physicians in Dublin at that time saw the case, and all differed in opinion with regard to its nature. One took it to be a case of phthisis, a second cancer of the lung, and the third thoracic aneurysm. He asked was the œsophagus involved in Dr. Boyd's case.

DR. HENRY KENNEDY said his experience had been the difficulty of deciding—not between phthisis and malignant disease, but between malignant disease and aneurysm. There was a general aspect of congestion about malignant disease that did not exist in phthisis, and again the dyspnœa was out of all proportion. Moreover, patients did not lose flesh, nor was the pulse quickened in malignant disease. Four years ago Dr. Finny asked him to see a case in Baggot-street Hospital, and the difficulty of diagnosis was as between aneurysm and malignant disease. The patient had a souffle of great distinctness at the supra-scapular region on the left side, and there was also great dyspnœa with symptoms of a tumour. He said himself the case was not phthisis, but further than that he was unable to go. It was a case of malignant disease in the upper part of the left lung in a female.

DR. BOYD, replying, said in his case the wall of the œsophagus was infiltrated, and it seemed inclined to burst. The man, however, made no complaint of difficulty in swallowing. In the second case, which he believed to be one of malignant disease from all the phenomena, the stricture seemed to begin early and to be a permanent symptom throughout. He thought the difficulty was greater in distinguishing between phthisis and malignant disease than between aneurysm and malignant disease of the thorax. The late Dr. Stokes had pointed out that pain was a constant symptom of malignant disease. But he had not himself found it so in his cases, which were the only ones that occurred during the last year in the hospital. He saw two or three others, one a case of tumour occurring in the thorax, and seeming to spring from the mediastinum. There was another symptom in distinguishing between the two cases, namely, aphonia.

The Section then adjourned until next Session.

IODOL.

IN a paper read before the Chicago Medical Society on the 2nd of August last, Dr. Scott Helen recommends that when the pus has been withdrawn by a fine canula from a suppurating bubo, the cavity should be injected with two drachms of an emulsion of iodol in pure oleic acid. The remedy was successful in twenty-two cases out of three-and-twenty so treated. Dr. J. Geisler expressed it as his opinion that iodol was almost a specific in such cases.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D. Univ. Dubl.; F.K.Q.C.P.;
F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, October 9, 1886.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

TOWNS	Weeks ending				TOWNS	Weeks ending			
	Sept. 18.	Sept. 25.	Oct. 2.	Oct. 9.		Sept. 18.	Sept. 25.	Oct. 2.	Oct. 9.
Armagh -	15·5	5·2	20·7	15·5	Limerick -	9·4	21·6	31·0	17·5
Belfast -	26·1	20·5	19·3	19·0	Lisburn -	29·0	33·8	24·2	0·0
Cork -	24·7	24·7	26·0	10·4	Londonderry	8·9	10·7	16·0	23·2
Drogheda	25·4	25·4	16·9	12·7	Lurgan -	25·7	20·5	25·7	20·5
Dublin -	27·0	24·5	22·4	23·0	Newry -	14·0	14·0	3·5	21·1
Dundalk -	21·8	4·4	8·7	4·4	Sligo -	19·2	9·6	24·1	4·8
Galway -	13·4	26·9	33·6	16·8	Waterford -	37·0	20·8	18·5	25·5
Kilkenny	16·9	4·2	25·4	16·9	Wexford -	8·6	29·9	8·6	29·9

In the week ending Saturday, September 18, the mortality in twenty-eight large English towns, including London (in which the rate was 17·6), was equal to an average annual death-rate of 22·6 per 1,000 persons living. In Glasgow the rate was 24·1; and in Edinburgh it was 13·9.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 24·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 4·8 per 1,000, the rates varying from 0·0 in seven of the districts to 9·3 in Waterford; the 16 deaths from all causes registered in that district comprising 4 from diarrhœa. Among the 111 deaths from all causes in Belfast are 1 from scarlatina, 2 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 3

from enteric fever, and 20 from diarrhœa. A death from typhus was registered in Wexford and 1 from scarlatina in Dundalk.

In the Dublin Registration District the births registered during the week amounted to 253—125 boys and 128 girls—and the deaths to 186—91 males and 95 females.

The deaths represent an annual rate of mortality of 27·5 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 27·0 per 1,000.

Forty-five deaths from zymotic diseases were registered, being 6 over the number for the preceding week, and also 6 in excess of the average for the 37th week of the last ten years; they comprise 2 from scarlet fever (scarlatina), 1 from typhus, 1 from whooping-cough, 2 from diphtheria, 1 from ill defined fever, 3 from enteric fever, 4 from “infantile cholera,” 29 (including 23 of children under 5 years old) from diarrhœa, &c.

Twenty-four cases of scarlatina were admitted to hospital during the week, being 8 under the admissions for the preceding week; 15 scarlatina patients were discharged, and 131 remained under treatment on Saturday, being 6 over the number in hospital on Saturday, September 11.

There were 2 cases of enteric fever and 1 of typhus admitted to hospital during the week; 20 cases of the former and 9 of the latter disease remained under treatment in hospital on Saturday.

Twenty-two deaths from diseases of the respiratory system were registered, being equal to the average for the corresponding week of the last ten years, and 5 over the number for the week ended September 11; they comprise 17 from bronchitis.

In the week ending Saturday, September 25, the mortality in twenty-eight large English towns, including London (in which the rate was 16·0), was equal to an average annual death-rate of 21·0 per 1,000 persons living. In Glasgow the rate was 19·0; and in Edinburgh it was 16·5.

The average annual death-rate in the sixteen principal town districts of Ireland was 21·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·7 per 1,000, the rates varying from 0·0 in eight of the districts, to 4·6 in Waterford; the 9 deaths registered from all causes in that district comprising 2 from diarrhœa. The 87 deaths from all causes in Belfast comprise 1 from typhus, 6 from enteric fever, and 12 from diarrhœa. Among the 38 deaths in Cork are 6 from diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 161—76 boys and 85 girls—and the deaths to 167—78 males and 89 females.

The deaths represent an annual rate of mortality of 24·7 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 24·5 per 1,000.

Thirty-four deaths from zymotic diseases were registered, being 2 over the average for the corresponding week of the last ten years, but 11 under the number for the week ended September 18; they comprise 3 from scarlet fever (*scarlatina*), 2 from diphtheria, 23 (including 15 of children under 5 years of age) from diarrhœa, 2 from dysentery; &c.

Twenty-three cases of *scarlatina* were admitted to hospital during the week, being 1 under the admissions for the preceding week, and 9 under the number for the week ended September 11; 23 *scarlatina* patients were discharged, 3 died, and 128 remained under treatment on Saturday, being 3 under the number in hospital on Saturday, September 18.

During the week, as in the week preceding, there were but 2 cases of enteric fever and 1 of typhus admitted to hospital; 14 cases of the former and 8 of the latter disease remained under treatment in hospital on Saturday.

Twenty deaths from diseases of the respiratory system were registered, being 2 under the number for the preceding week, and 3 under the average for the 38th week of the last ten years; they comprise 14 from bronchitis.

In the week ending Saturday, October 2, the mortality in twenty-eight large English towns, including London (in which the rate was 17·0), was equal to an average annual death-rate of 20·6 per 1,000 persons living. In Glasgow the rate was 21·7; and in Edinburgh it was 14·7.

The average annual death-rate represented by the deaths registered last week in the sixteen principal town districts of Ireland was 21·6 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·7 per 1,000, the rates varying from 0·0 in nine of the districts to 6·7 in Galway; the 10 deaths from all causes registered in the last-named district comprise 1 from simple continued fever and 1 from diarrhœa. Among the 82 deaths from all causes in Belfast are 6 from *scarlatina*, 1 from typhus, 1 from whooping-cough, 4 from enteric fever, and 5 from diarrhœa. The 40 deaths in Cork comprise 3 from typhus, 1 from diphtheria, and 2 from diarrhœa. One of the 2 deaths registered in Dundalk was caused by *scarlatina*.

In the Dublin Registration District the births registered during the week amounted to 217—107 boys and 110 girls—and the deaths to 154—78 males and 76 females.

The deaths represent an annual rate of mortality of 22·7 in every 1,000 of the estimated population; omitting the deaths of persons

admitted into public institutions from localities outside the district, the rate was 22·4 per 1,000.

Thirty-three deaths from zymotic diseases were registered, being 1 over the average for the corresponding week of the last ten years, but 1 under the number for the week ended September 25—they consist of 8 from scarlet fever (scarlatina), 2 from enteric fever, 21 (including 13 of children under 5 years old) from diarrhœa, and 2 from dysentery.

Twenty-one cases of scarlatina were admitted to hospital during the week, being 2 under the admissions for the preceding week, 21 scarlatina patients were discharged, and 128 remained under treatment on Saturday, being equal to the number in hospital at the close of the preceding week.

No cases of typhus were admitted to hospital during the week, but there were 10 cases of enteric fever received, against 2 in each of the two preceding weeks; 3 enteric fever patients were discharged during the week and 21 remained under treatment on Saturday, being 7 over the number in hospital on Saturday, September 25.

There were but 11 deaths from diseases of the respiratory system registered during the week, being 9 under the number for the preceding week, and 12 below the average for the 39th week of the last ten years—they comprise 6 from bronchitis.

In the week ending Saturday, October 9, the mortality in twenty-eight large English towns, including London (in which the rate was 17·2), was equal to an average annual death-rate of 19·3 per 1,000 persons living. In Glasgow the rate was 23·9; and in Edinburgh it was 19·9.

The average annual death-rate in the sixteen principal town districts of Ireland was 19·5 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·5 per 1,000, the rates varying from 0·0 in thirteen of the districts to 4·1 in Dublin. The 81 deaths from all causes registered in Belfast comprise 3 from scarlatina, 3 from whooping-cough, 1 from enteric fever, and 5 from diarrhœa; and the 16 deaths in Cork comprise 1 from enteric fever and 1 from diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 168—85 boys and 83 girls—and the deaths to 156—75 males and 81 females.

The deaths represent an annual rate of mortality of 23·0 in every 1,000 of the estimated population; all the deaths in public institutions were of persons admitted from localities within the district.

Thirty-one deaths from zymotic diseases were registered, being 5 over the average for the corresponding week of the last ten years, but 2 under the number for the week ended October 2. They comprise 6

from scarlet fever (scarlatina), 1 from whooping-cough, 2 from cerebro-spinal fever, 1 from ill-defined fever, 3 from enteric fever, 17 (including 12 of children under 5 years of age) from diarrhœa, &c.

Forty cases of scarlatina were admitted to hospital during the week, being 19 over the admissions for the preceding week; 23 scarlatina patients were discharged, and 145 remained under treatment on Saturday, being 17 over the number in hospital on Saturday, October 2.

Only 1 case of typhus was admitted during the week, and there were but 2 cases of this disease in hospital on Saturday.

Twelve cases of enteric fever were admitted to hospital, being 2 in excess of the admissions for the preceding week; 2 patients were discharged, and 31 remained under treatment on Saturday, being 10 over the number in hospital on Saturday, October 2.

Sixteen deaths from diseases of the respiratory system were registered, being 5 over the number for the preceding week, but 10 under the average for the 40th week of the last ten years—they comprise 7 from bronchitis and 2 from pneumonia or inflammation of the lungs.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of September, 1886.

Mean Height of Barometer,	-	-	-	29·978 inches.
Maximal Height of Barometer (on 15th, at 9 p.m.),				30·506 „
Minimal Height of Barometer (on 9th, at 12 30 p.m.),				29·448 „
Mean Dry-bulb Temperature,	-	-	-	55·6°.
Mean Wet-bulb Temperature,	-	-	-	53·0°.
Mean Dew-point Temperature,	-	-	-	50·6°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-			·372 inch.
Mean Humidity,	-	-	-	84·0 per cent.
Highest Temperature in Shade (on 13th),	-			69·5°.
Lowest Temperature in Shade (on 23rd),	-			39·0°.
Lowest Temperature on Grass (Radiation) (on 23rd),				32·5°.
Mean Amount of Cloud,	-	-	-	55·9 per cent.
Rainfall (on 15 days),	-	-	-	2·471 inches.
Greatest Daily Rainfall (on 9th),	-	-	-	·649 inch.
General Directions of Wind,	-	-		S.W., W.S.W., N.E.

Remarks.

Two distinct types of weather presented themselves during this month—cyclonic, rainy, and even stormy, from the 4th to the 13th, and again after the 24th; but anticyclonic, quiet, and dry, with easterly winds from the 14th to the 24th, inclusive. Temperature ranged about the

average; rainfall was somewhat in excess, but it was distributed over only the usual number of days for September—namely, 15.

In Dublin the mean temperature (56.2°) was one-fifth of a degree above the average (56.0°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 55.6° . In the twenty-one years ending with 1885, September was coldest in 1866 and 1882 (M. T. = 53.0°) and warmest in 1865 (M. T. = 61.4°). In 1885, the M. T. was only 54.4° ; in the year 1879 (the cold year) it was 54.3° .

The mean height of the barometer was 29.978 inches, or 0.061 inch above the average value for September—namely, 29.917 inches. The mercury rose to 30.506 inches at 9 p.m. of the 15th, and fell to 29.448 inches at 12 30 p.m. of the 9th. The observed range of atmospherical pressure was, therefore, 1.058 inches—that is, slightly more than an inch. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 55.6° , or 4.1° below the value for August, 1886; that calculated by Kaemtz's formula—viz., $\text{min.} + (\text{max.} - \text{min.} \times .41) = \text{Mean Temp.}$ —from the means of the daily maxima and minima was 55.1° , or precisely equal to the average mean temperature for September, calculated in the same way, in the twenty years, 1865–84, inclusive (55.1°). The arithmetical mean of the maximal and minimal readings was 56.2° , compared with a twenty years' average of 56.0° . On the 13th the thermometer in the screen rose to 69.5° —wind S.W.; on the 23rd the temperature fell to 39.0° —wind N.N.W. The minimum on the grass was 32.5° on the same date. The rainfall was 2.471 inches, distributed over 15 days. The average rainfall for September in the twenty years, 1865–84, inclusive, was 2.289 inches, and the average number of rainy days was 14.5. The rainfall and the rainy days, therefore, were both perceptibly above the average. In 1871 the rainfall in September was very large—4.048 inches on however only 13 days—and in 1869, 3.957 inches fell on 21 days. On the other hand, in 1865, only .056 inch was measured on only 3 days. This last was the driest month recorded in Dublin during at least the last quarter of a century.

A lunar rainbow was seen on the 11th. The atmosphere was foggy on the 2nd, 3rd, 4th, 20th and 28th. High winds were noted on as many as 12 days. Sheet lightning was seen on the evenings of the 26th and 27th. Thunder and lightning occurred on the 4th in the neighbourhood of Dublin, and distant thunder was heard on the 5th also.

The month opened with fine weather, high barometer readings, and warmth. Some of the maximal temperatures over England were as high as 87° , and on the Continent even this heat was exceeded on several occasions. On Saturday, the 4th, an irregular dépression travelled northwards across the S.W. of England, Wales, and Ireland, causing severe thunderstorms and heavy rain.

During the week ending Saturday, the 11th, the weather was unsettled.

At the beginning local thunderstorms were reported. After the 6th atmospheric pressure was low off the N.W. of Ireland, high over France and Germany. During this period three well-marked depressions passed by our extreme N.W. and W. coasts. These caused S. and S.W. gales, or high winds, and heavy downpours of rain in most parts of Ireland and Scotland, while conditions were less unsettled in England.

Early in the third week (that ending Saturday, the 18th), an important change took place in the distribution of pressure, and consequently in the weather also. After a well-marked but shallow depression had travelled quickly north-eastwards across Ireland and Scotland on the 13th, a large anticyclone came in from the Atlantic, producing N. and E. winds, dry and cool weather. On the night of the 15th–16th temperature fell to 33° at Leith, and next night frost was reported from the N. and E. of Scotland. The barometer rose above 30·6 inches near the centre of the anticyclone. In Dublin the highest reading was 30·51 inches on the night of the 15th.

From the 19th to the 24th the meteorological conditions were anti-cyclonic in the N., cyclonic in the S. On Monday, the 20th, a system of low pressure formed over the Bay of Biscay, and the easterly wind freshened considerably. This depression lay for two days over Brittany and then dispersed. On the 25th, temperature rose, and conditions became mild, unsettled and showery, as depressions began to appear off the west coast of Ireland.

Sunday, the 26th, was very fine in Ireland, rainy in England; but at night a deep and extensive depression came in from the Atlantic, bringing with it gales, rain, and lightning. From this time to the close of the month, squally, showery weather continued in Ireland.

At Greystones, county Wicklow, the rainfall for the month was 2·614 inches, distributed over seventeen days.

THERAPEUTIC USES OF WATER.

IN a paper read at a meeting of the Louisville Medico-Chirurgical Society on the above subject, Dr. D. J. Smith says:—"As a hæmostatic, hot water occupies the very front rank. In menorrhagia or *post partum* hæmorrhage nothing else compares with it in a great majority of cases for arresting the excessive discharge. When used for this purpose it ought to have a temperature of from 110° to 120°, and be permitted to drain off freely after reaching the cervix and other neighbouring parts."—*Am. Pract. and News*, Sept. 4. [For the introduction of hot water as a hæmostatic in midwifery practice we are indebted to Dr. L. Atthill of this city.]

PERISCOPE.

TAKING THE TEMPERATURE IN CHILDREN.

A VERY ingenious and simple method has been proposed by Filatoff, in the *Archiv für Kinderheilkunde* (Vol. VII., Part 3), for expediting the troublesome process of obtaining the temperature in children. He recommends that by the use of a previously warmed thermometer the fall, and not, as is usual, the rise of the mercury should be observed. In from one to two minutes the column is found to stop at a point which very closely approximates to the actual temperature of the patient. It is found that the higher the fever, the smaller is the error. Thus, at temperatures of from 103.1° to 104° F., the error does not exceed 0.2° F., while for lower temperatures it may reach 0.5° F. It is, of course, evident that a certain amount of care and skill is requisite in order that the precursory warming of the thermometer be neither insufficient nor excessive.—*Medical News*, Aug. 28, 1886.

LA PERLÈCHE—A NEW PARASITIC AFFECTION OF CHILDREN.

UNDER the above title, Dr. Justin Lemaistre, of Limoges (*Journ. de la Société de Méd. de Haute Vienne—Le Progr. Médical*), describes a peculiar skin affection very prevalent among the children in and about the city of Limoges, and probably in other provinces of France. Among 5,500 school children examined, 312 were found affected, while in the village of Périgord over half had the disease. It is called by the peasants *perlèche*, because the sensation of dryness and smarting causes the patients to lick (*pour lècher*) their lips. It is also called *bridon*, because the commissures of the lips are cracked or excoriated so that they look as if bridled. It is at these points that the disease is chiefly located. The epithelium becomes blanched, macerated, and detached. Sometimes cracks are formed in the direction of the commissural fold. These may bleed and cause pain. The lesion recalls many of the objective appearances of certain mucous plaques. The disease is self-limited, lasting only from fifteen days to a month as a rule; but it may reappear again and again, so that sometimes a child will suffer for a year. The disease is perfectly devoid of danger, and causes no constitutional symptoms. M. Lemaistre has clearly shown that it is contagious, and that the ordinary mode of contagion is by school children drinking from the same cup. Upon these cups, in the drinking water, and upon the infected surface of the skin, M. Lemaistre discovered a micro-organism which he cultivated and called the *streptococcus plicatilis*. In the Pasteur flasks the organism develops

with extraordinary rapidity. In examining the diseased skin microscopically, the microbes were found on the borders of the epithelial cells, which often became disintegrated and destroyed. The microbe lives in stagnant water, wells, and springs, in the form of a micrococcus. When taken into buckets, pails, and unclean drinking vessels, it develops into little chains. In this form it is transferred to the lips, where it develops. The crucial experiment of testing whether this was actually the pathogenic organism of *perlèche* by inoculating pure cultures was, unfortunately, not tried. So that Dr. Lemaistre's view that it is the cause of the disease does not amount to a demonstration. The *perlèche* is a disease of uncleanliness, and can easily be prevented. Its importance lies in the possibility of its being mistaken for syphilis, and in the annoyance and suffering it gives to children, who are not to blame that their parents and school officials are neglectful.—*The Medical Record*, Aug. 28, 1886.

ATROPIN IN PTYALISM.

ON a basis of two cases, coming under his own observation, Dr. Otto Hebold, of Bonn, recommends the subcutaneous injection of atropin in nervous ptyalism. In one case (insanity due to alcoholism) the saliva discharged in twenty-four hours amounted to more than two pints. The influence of the alkaloid was, during the first days, most marked immediately after the injection, but it continued also during the remainder of the treatment. The flow of saliva ceased entirely and did not return after a cessation of the injection. For the first two days the dose given was one three-hundredth of a grain, then from the third to the ninth one two-hundredth, which from the tenth to the fifteenth day was again reduced to one three-hundredth. In the second case also (an epileptic insane patient, with atrophy of the optic) the symptoms ceased entirely. In this case at first a dose of one two-hundredth was given for three days, then one seventy-fifth for two days, and then for a short time one two-hundredth.—*Deutsche med. Zeitung*, and *American Practitioner and News*, Sept. 4, 1886.

LUXATION OF THE ULNA IN COLLES'S FRACTURE.

It is now about fifteen years since Moore, of Rochester, called attention to the occurrence of dislocation of the ulna and its separation from the triangular cartilage in Colles's fracture of the radius. He first observed these complications in the case of a woman, who, in a fit of mania, leaped from a third-story window, and broke her spinal column and both wrists. Four additional cases have been studied by him and have confirmed his convictions that, even when these fractures are the result of ordinary violence, they present the same features of a separation of the triangular ligament from the ulna, rupture of the lateral ligament, and tearing off of a portion of the styloid process of the ulna. Moore's assertions have

not so far secured the consideration they seem to deserve. Indeed, the credit of the discovery of the important relation of the dislocation of the ulna and fracture of the styloid process to Colles's fracture has lately been assigned to another investigator, Mr. Clement Lucas, whose observations were published in *Guy's Hospital Reports*, Vol. XLII., for 1883 and 1884. These observations support the views so long ago expressed by Moore, although they differ from his in certain particulars. There can be no doubt of the correctness of the statements of both Moore and Lucas. It is, moreover, certain that there is more or less displacement of the ulna from its connections at the wrist, with fracture of the styloid process, in many fractures at the lower end of the radius, in which these lesions are not discovered or even suspected. Moore estimates the frequency of these complications as about fifty per cent., and Lucas found them present in fifteen out of twenty-eight specimens in Queen's College Museum, which he subjected to a careful and critical examination.—*Medical News*, October 2, 1886.

ROLLER-SKATING FOR GIRLS.

DR. HILL has given considerable study to the subject of roller-skating, and after the utmost care in his observations he has found roller-skating unsatisfactory. He assures us that it brings out latent predisposition to disease, and says the sport should be forbidden those who have the slightest tendency to kidney or heart trouble. A most intractable case of anæmia was caused by skating excessively. Girls who have skated very much have leucorrhœa, and confess it is aggravated by even a limited amount of the exercise. The doctor questions whether girls can take even slight exercise of this nature without injury.—*Western Medical Reporter*.

AMENORRHŒA.

DR. GOODELL says that amenorrhœa is best treated with vigorous tonics of iron and strychnia, in anæmic nervous young women, but where there is a condition of plethora, he finds nothing so effective as iodide of potassium.—*Ibid*.

ST. MARK'S OPHTHALMIC HOSPITAL, DUBLIN.

AN announcement has been made that a special course of Post Graduate Lectures in Ophthalmic Surgery (including operations) will be delivered in the theatre of this hospital during the present winter session. The course commenced on October 20th, and the lectures are being delivered on Wednesdays, Thursdays, and Saturdays at 10 a.m., and on Fridays at 11 30 a.m. Medical men wishing to attend are requested to communicate with the surgeons at the hospital, Lincoln-place, Dublin.

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PART I. ORIGINAL COMMUNICATIONS.

ART. XIII.—*Practical Therapeutics*.^a By JAMES LITTLE, M.D.,
Univ. Edin.; President of the King and Queen's College of
Physicians.

THE honour of being President of the King and Queen's College of Physicians carries with it grave responsibilities. Of these not the least is the duty which, by the Constitution of the Academy of Medicine, is entrusted to the President of taking the Chair at the meetings of the Medical Section. The duty indeed of presiding at the meetings is an easy one, as here happily discussion is invariably so conducted as to leave little opportunity for the interference of the Chairman, but usage has, rightly I think, made it obligatory on him to deliver at the beginning of the session an address which may give enthusiasm or suggestion to the subsequent meetings. When I consider how well this duty has been discharged by the two eminent men who have already filled the place I now occupy, and when I think of the audience I have the honour of addressing, I feel that I might be excused if I contented myself with pointing to the success of previous sessions, and exhorting my hearers to endeavour in the future to equal the achievements of the past. I do not, however, propose to do this, and in thus departing from a safe and easy course, and adopting one which is

^a Being an Address delivered at the Opening Meeting of the Medical Section of the Academy of Medicine in Ireland, November 19, 1886.

open to question, I rely, as I know I may, on your kind forbearance and lenient criticism.

Inasmuch as the Academy, in addition to the Medical Section, has a special Pathological Section, I suppose I am correct in saying that our business here is by the interchange of ideas to help one another to a more accurate knowledge of the causation, the natural course, the symptoms and signs, and the proper management of those diseases which come under the care of the physician, the last of these being the ultimate object of our discussions, the one towards the elucidation of which not only our studies in ætiology and diagnosis, but our pathological researches should tend, and my observations will relate to some details of our daily work in the treatment of disease, which, though minor and unimportant, as compared with the great scientific questions which confront us, may not be altogether unworthy of consideration.

Numerous and important have been the additions made during the last few years to our knowledge of the treatment of disease. So many and so brilliant have they been, that I often feel, as I am sure many of those who hear me do, how difficult it is to keep oneself fairly informed on the properties and powers of our new remedies, and on the new applications of our old ones, and I might easily and pleasantly occupy the brief period during which I feel justified in detaining the Medical Section in comparing the therapeutic resources of the present day with those of former times. But if, instead of adopting this course, instead of congratulating my hearers and myself on our knowledge and skill, I dwell on the imperfection of our art, and on some of the causes of that imperfection, I do so in the hope that, erroneous though my conclusions may be, and poor and inadequate as my suggestions assuredly will be, they may yet serve in some degree to stimulate others more observant and more thoughtful in the endeavour to attain to greater precision in the use of medicines, and in the employment of other therapeutic measures.

The most formidable obstacles to the attainment of precision in the use of remedies are, no doubt, connected with the extreme diversity of the cases submitted to our study; if the physician attempts to apply the legal maxim, "like case like rule," to the selection of remedies to arrest disease, he is met by the fact that the course and dangers of disease are so much influenced by hereditary and acquired tendencies, and the influence of his measures so greatly affected by mental states, and, above all, by the imagina-

tion, that it is very seldom that the conditions of one experiment correspond precisely with those of another. On these difficulties I do not now purpose to dwell—I seek rather to speak of some of the defects in our own methods, which, as it appears to me, have hindered the just appreciation of the value of remedies, and which, unless we correct them, are likely in the future to have a similar effect.

I. Foremost among the circumstances which have led to an erroneous estimate of the power of medicines and therapeutic measures I would place the fact that, in observing their effects, we have allowed ourselves to be unduly influenced by preconceived notions as to what those effects should be.

1. About forty years ago, when iodide of potassium was a comparatively new medicine, its use was suggested in two very different maladies—acute hydrocephalus, or, as we now term it, tubercular meningitis, and bronchial asthma. It was recommended in the former because of the curative influence which everyone seemed then to acknowledge iodine exercised over scrofulous and tubercular ailments, whereas, though used in the bronchial affection by such excellent observers as Dr. C. J. B. Williams and Dr. Walshe, its employment seemed to savour rather of homœopathy than of orthodox medicine. The hold which these two suggestions gained over professional opinion and practice was strikingly different. The propriety of using iodide of potassium in acute hydrocephalus was almost universally conceded, and up to the present day, I think, a large proportion of children affected with tubercular meningitis are treated with iodide of potassium, whereas in bronchial asthma it is only within the last few years that its use has become at all frequent; and even now, if we take the whole body of the profession, I am sure that ipecacuanha, stramonium, and lobelia are much more commonly prescribed. Conversations I have held with medical friends in England lead me to think that its use there is even less frequent than in this country; and Dr. Franks, of Cannes, who has had quite exceptional opportunities of knowing what drugs are ordered for sufferers from bronchial asthma, lately told me that he has been surprised to see among the prescriptions submitted to him by such invalids seeking relief in the Riviera how seldom iodide of potassium appears.

But if we turn now from the reputation which the iodide has enjoyed in these two diseases to its actual effect upon them, what do we find? I do not say that iodide of potassium has never

relieved a child who presented symptoms of basilar meningitis, because I think sometimes, though very rarely, in syphilitic children symptoms like those of the tubercular disease occur; but in genuine acute hydrocephalus, unfortunately a very common disease, not only does it fail to cure but it fails to relieve. We have in leeching, in the unloading of the bowels, in the bromides, and—heterodox though I fear such an assertion will be considered—in the cautious hypodermic injection of morphin and atropin, remedies which alleviate, sometimes greatly alleviate, the sufferings of the child; but iodide of potassium has no such effect. In bronchial asthma, on the other hand, if the diet be properly regulated and the digestive organs set right, iodide of potassium, three times out of four, gives manifest relief. Once from Pontresina and once from Cologne have I received telegrams from patients who suffered from bronchial asthma, and who had incautiously gone abroad without their prescription, begging I would forward it, as all other remedies had failed. These facts, the unmerited reputation which the iodide gained in the cerebral affection, and the unmerited neglect of it in the pulmonary disorder, I adduce as a proof that the formation of professional opinion has been too strongly influenced by preconceived notions, and too little by actual observation.

2. Hæmaturia is of course only a symptom; and when we are called to a patient from whose urinary passages blood is escaping, our first duty is to determine, if we can, from what part of the urinary tract the blood comes, and, secondly, to ascertain what is the lesion there existing which provokes the hæmorrhage. When we have done this, or, as sometimes happens, without having been able precisely to do so, if the discharge of blood is considerable, and does not appear to be one of those hæmorrhages which are salutary instead of dangerous, we are called on to devise means of arresting it. To this end most of the treatises on urinary diseases advise us to administer astringent medicines, and I think this advice is generally followed. For the last fifteen years I have been observing the effect of this treatment, and, so far, I have never yet seen gallic acid, alum, sulphuric acid, ergot, tincture of iron, or matico, control the hæmaturia in the smallest degree; on the contrary it appeared to me that by confining the bowels they prove rather injurious than useful. Others may have been more skilful in the use of these remedies; but what I have stated has been my experience, and I mention it here in the hope that some of those whom

I have the honour of addressing will observe for themselves. If I am wrong, I will be very glad to be set right; but if, as I believe, the administration of astringent drugs in hæmaturia is a treatment plausible in theory but disappointing in practice, let us not tenaciously adhere to it, but seek some more effectual means of meeting the difficulty.

3. In the United Kingdom thousands of pounds are annually expended in the purchase of iodine, which, after solution in spirit, is applied to enlarged glands in the neck and elsewhere in the body to promote their disappearance. The impetus to the employment of the iodine was given by Lugol fifty years ago, and given so strongly that it has reached our days apparently with undiminished force, and, quite recently, rather acrimonious discussions have taken place as to the merit of rendering the application colourless. Yet its value is a matter on which every practitioner should be able easily to form his own judgment, and any one who does so independently will, I think, soon arrive at the conclusion that if the solution employed, whether it be coloured or colourless, is a weak one, such as the pharmacopœial tincture, no effect whatever is produced; whereas if it be a strong one, such as the pharmacopœial liniment, the result is that the enlarged glands get more enlarged, and if the application is continued an abscess forms in the surrounding cellular tissue.

4. Great as is the national expenditure in iodine for the resolution of enlarged glands, it is small compared to the annual outlay in claret to promote the formation of blood. If I thought the opinion regarding its powers in this respect was merely a matter of popular faith I would not of course allude to it here, but, unless I am greatly mistaken, it is largely shared by the Profession. I do not know what were the virtues of claret when it was imported by Mr. Sneyd and sold at nine shillings a bottle, and when the College of Physicians presented each newly-elected President with a hogshead; but I know this, that among the many virtues which the claret of the present day possesses, and which are so many that it will easily sell on the strength of those it really deserves, the power of making blood finds no place. My attention was first directed to this subject by that keen observer of the actual effect of treatment, Sir Dominic Corrigan, who, being consulted by a young lady unbecomingly full and florid, advised her to order home three dozen of light claret and drink it as fast as she decently could. The effect was what she desired—it blanched her to the

required degree. This occurred more than ten years ago, and I have since had many opportunities of noticing in private that many girls who were brought to me, because they had remained persistently anæmic in spite of iron, had generally also been persuaded, often sorely against their will, to drink claret freely on account of its supposed blood-making powers.

5. Of all the drugs whose usefulness has been lessened because its employment has been regulated rather by theoretical considerations than by actual observation of its effects, alcohol, I think, occupies the most conspicuous place. Some, regarding the tendency to death in all acute diseases as due to some kind of debility, and in the same loose fashion taking it for granted that the power of alcohol is to give strength, have used it with a liberality which certainly has not been for the benefit of the sick; while others, influenced to some extent by the undoubted moral dangers which attend its use, and by theoretical considerations regarding its uselessness as a food, have denied it to patients who would certainly have been benefited by its administration. It will probably be many years before the pathologist is able to determine for us the nature of the changes which occur in the tissues and organs in acute disease, and I do not think that the researches of the chemists have yet taught us what precisely are the complex effects of alcohol on the living body; but, pending the completion of these investigations, those of us who are engaged in the tending of the sick, if we study the clinical observations of the great physicians who have made the use of wine a study, and keep before us the fact that we are using a remedy as potent for injury as for good, may be able to determine its actual effect on those who are committed to our care.

6. Just at the present time there is for some of us a special danger of the kind to which I am now alluding. The ingenuity of the pharmaceutical chemists has been expended in devising endless preparations, which are commended to us on account of their chemical constitution and their consequent special adaptation to particular kinds of disease. A few of these are more convenient and more effectual than the pharmacopœial preparations, but the majority of them have no other claims on our acceptance than the positive, unhesitating, and plausible assertions as to their value made by those who have an interest in their sale; and it behoves us to recollect that "print refuses nothing," and to trust, not to the commendations of those who manufacture

such preparations, but to their observed effects on those who use them.

II. Another circumstance which, as it appears to me, has led us on to a wrong path has been a misapprehension of the relation of morbid anatomy to therapeutics. Ever since I have been a physician I have sought every opportunity, not only in hospital but in private practice, of opening the bodies of those who have died under my care, and I would not desire that any word of mine could possibly be construed as discouraging the study of morbid anatomy. Without it reliable progress in the science and art of Medicine is impossible; but, whatever it may do in the future, it certainly, at the present time, has only in a few conditions given the physician direct guidance in the selection of remedies. It has indeed shown us the uselessness of medical treatment and the expediency of surgical interference in some intestinal obstructions, and it has enabled us to see how the withdrawal of blood must relieve the circulatory embarrassment in some forms of cardiac suffering; but in most cases its province is to enable us, when we perform a therapeutic experiment, to make the experiment a reliable one.

When I am led to use a drug, either from previous knowledge of its effects in a similar case or from considerations founded on analogy, my experiment must be a superficial one if I merely make note of the symptoms and of the effect of the drug on the symptoms; but, if guided by my knowledge of morbid anatomy, I can, in addition to the symptoms, determine the structural changes which are present; then my experiment will really serve to guide me in a similar case again. We can easily see why this must be so. In the dead-house we view, not the morbid process, but its result; and even in cases where we are able to infer with some approach to confidence—as we may, perhaps, do in the inflammations—what are the structural changes which occur during the process, we are yet a long way from knowing how it originates, what are the forces which keep it up, and what is its intimate nature; and a still longer way from the knowledge of how a drug will influence the process. But, on the other hand, when we administer a drug without having made a complete diagnosis, for which an acquaintance with morbid changes is indispensable, we can neither avail ourselves of previous experience to direct us in the case before us, nor hope that the experiment we are then performing will avail much for future

guidance, as we may be comparing cases which, though similar in symptoms, are in reality altogether different.

This misapprehension of the bearing of morbid anatomy on practical medicine has, as it appears to me, impeded progress in two different ways—it has encouraged some in the attempt, by powerful drugs, to modify structural changes when they should have been content to meet the symptoms they produced; and, on the other hand, it has led some distinguished men, whose studies were chiefly pathological, to deny altogether the power of medicine, so unlikely did it appear to them that any drugs could influence the alterations of tissue which their scalpels revealed. The former, finding profound structural changes—the nature of which they too readily assumed to be inflammatory or effusive—felt impelled to use against them strong remedies, in the power of which over such changes they were too ready to believe: enlargements of the liver were attacked with mercury, and cardiac hypertrophy vainly treated with iodine, from an impression that when pathological research had revealed such changes the physician was called on to put forth a corresponding activity in his treatment. The pathologists, on the other hand, contemplating the extent to which healthy tissue has been destroyed, or morbid material produced in various diseases, have allowed themselves to be led into a state of hopeless expectancy, forgetting that although the structural changes were beyond their control, the derangements they produced might yet be obviated so far as to permit of the continuance of life, and even the restoration of comfort.

III. A third circumstance which, as it seems to me, has militated against a just appreciation of the powers of medicines, is an insufficient recognition of the fact that apparently slight differences in the manner in which they are administered often make a great difference in their effects. I see before me some distinguished therapeutists who, out of their abundant knowledge, could, I am sure, and I hope may at a future time, supply much more important examples in illustration of this truth than I am able to furnish. Among those which have attracted my own attention I will mention a few. In the bronchial affection to which I have already alluded I have seen an individual relieved in four days by five grains of iodide of potassium dissolved in half an ounce of water and taken an hour before meals, who in a previous attack had taken five grains of the iodide in two ounces of water after meals for three weeks without the least benefit. In anæmia

it sometimes happens, as the late Dr. M'Dowel first taught me, that iron given in effervescence will rapidly show its powers when it does no good, or actually disagrees, if administered in any other form. A dose of morphin which would be powerless to relieve cough if taken in an aqueous vehicle will promptly effect that object if dissolved in a small quantity of a viscid menstruum.^a In certain chronic rheumatic affections the salicylate of sodium does much more good when it is taken in a single large dose at night than if given in smaller doses during the day.^b Six or eight drachms of sulphate of magnesium given early in the morning in just as much hot water as will dissolve it, provided the patient refrains from drinking for some hours afterwards, is of undoubted value in some recent pleural effusions, whereas given freely diluted it exercises no good effect whatever. It has also appeared to me that we fail to get the full value of the great vegetable drugs by the system which obtains of prescribing their tinctures in the form of mixture. I believe that in cases requiring *nux vomica*, *digitalis*, or *belladonna*, it is better to direct the patient to take the number of minims of the tincture we propose to use, mixed with a little water immediately before administration, than to order a mixture in which the drug has to remain in a vegetable infusion, often with alkaline salts, for days.

It is sometimes said that so long as we prescribe various ingredients together we cannot hope to learn what is the value of each of them, and certainly the simpler are our combinations the more likely are we to advance therapeutic knowledge. Theoretically there may not be any objection to elaborate combinations; the derangements which occur in disease are often

^a Long ago I was struck with the singular efficacy of a simple solution of acetate of morphin in syrup prescribed by Dr. Cuming, of Armagh, who for nearly half a century occupied the first position as a physician in the North of Ireland, and imitating him I have for many years been using the following mixture:—Acetate of morphin, two grains; dilute hydrocyanic acid, forty-eight minims; syrup of orange, to two ounces; with the direction, "Shake the bottle, and take a small teaspoonful undiluted once or twice during the night if cough severe." Special circumstances, of course, call for other drugs, but on the whole this combination relieves the night-cough of phthisis better than any with which I am acquainted.

^b In subacute articular pains, where the patient was not confined to bed, I had often adopted the plan of giving thirty or forty grains of the salicylate of sodium at night, as I found it helped to make the patient sleep, but this summer I learned from Dr. Brandis, of Aix-la-Chapelle, that in certain somewhat chronic cases this is really the mode of administration which is most effectual. He gives as much as sixty grains, but I have never tried so large a dose.

complex, and the indications for interference may consequently be various, and it may therefore fairly be argued that it is only natural that we should endeavour to fulfil them by administering at one time several drugs; but practically it must require a very nice estimate of the importance and relative bearing of the functional disturbances, a very clear knowledge of their tendency, before the physician can hope that, if he interferes in several ways at the same time, they will all be for the benefit of the patient. We must never forget that painful and inconvenient symptoms may indicate the efforts which the constitution makes to return to health, and may therefore not call for active interference on our part. Formulæ, indeed, have from time to time been devised by thoughtful physicians which have stood the test of experience and prove of signal value in our daily work. It has been a great source of satisfaction to me that I have been able to make more generally known than otherwise they would have been Dr. Hudson's white mixture,^a which is of such undoubted value in many forms of gastric derangement, and his combination of the chlorides,^b which serves us so well in the management of strumous affections; but the scope of such combinations is limited, and the less rigidly, I think, we adhere to them the better; even the celebrated Baillie's pill, which has so often rescued sufferers from cardiac dropsy, may sometimes, I believe, be split up with advantage.

^a The mixture to which I have given this name consists of nitrate of potassium, twelve grains; trisnitrate of bismuth, one drachm; powdered gum acacia, two drachms; dilute hydrocyanic acid, thirty-six minims; dilute nitric acid, one drachm; and water to six ounces. Of this a tablespoonful by measure is taken twice or thrice daily half an hour before food. The chief indications for its use are thirst and an abnormally clean tongue; it relieves many of the slighter forms of gastric pain after food; it is valuable in the irritative dyspepsia of phthisis, in the gastric derangement present in some cases of Bright's disease, and specially so in anæmic girls when they have reached that stage in which thirst is a marked symptom—a stage in which iron only disagrees. I once asked Dr. Hudson what led him to devise this combination, and he told me he had seen it prescribed by the celebrated Wilson Philip, and, observing how useful it was, he had adopted it. I do not think he was in the habit of using it much in hospital, as men who had attentively followed his teaching at the Meath Hospital have told me they had never seen the prescription.

^b This mixture consists of hydrochlorate of quinine, twenty-four grains; chloride of calcium, one drachm; dilute hydrochloric acid, three drachms; solution of perchloride of mercury, twelve drachms; and water to six ounces. Of this one tablespoonful, by measure, is taken in a wineglassful of water after breakfast and dinner. It is useful in young persons who have scrofulous glands and sinuses in the neck and axilla, in diseases of the bones of the wrist and hand, and in disease of the mucous membrane of the nose, and I have myself found it, with the addition of the hydrochloric solution of arsenic, valuable in psoriasis occurring in young strumous persons.

Apparently a simple mechanical result of failure of the central organ of the circulation, cardiac dropsy in reality, is not always due to the same assemblage of conditions, and where, with a loaded right heart and a regular and comparatively slow pulse, we have a swollen liver and greatly overfull venous system, the mercury, especially in the shape of calomel, has appeared to me to relieve more surely if at first we give it without the digitalis. So strong, indeed, is the force of usage and education that most of us, I think, find it hard to depart from the style of prescription which the verdict of time seems to have ratified. When we make up our minds, in affections of the stomach, to administer an alkali, it seems more becoming in the prescriber to order an elegant combination, with chloric ether, tincture of orange, and infusion of calumba, than to direct the dyspeptic to take fifteen grains of bicarbonate of sodium or potassium in a wineglassful of hot water; but, as a matter of fact, in those cases of gastric catarrh in which alkaline medicines give relief, I am satisfied that they generally do so more effectually in weak hot aqueous solution than when ordered with tonic and flavouring adjuvants.

By attention to such small details as these I believe we can do something to secure greater precision in the use of drugs. Let us avail ourselves of suggestions founded on physiological and chemical considerations, but let us trust in them only so far as they are verified by observation—by so doing alone can we escape the various sources of error by which our conclusions may be vitiated. Let us thankfully avail ourselves of all remedies, however introduced to us, which we see give relief; so shall we prove ourselves worthy of the great and liberal Profession to which we belong, and so shall we do the utmost that is possible to relieve suffering and postpone death.

ART. XIV.—*Finality in Surgery.*^a By SIR WILLIAM STOKES, F.R.C.S.I; M.D., M.Ch., Univ. Dubl.; President of the Royal College of Surgeons in Ireland.

ON the present occasion I have, in the first instance, to acknowledge the signal mark of confidence that has been shown me by this College in placing me in the position I now occupy—one that carries with it, as you know, the duty as well as the privilege of presiding during the coming session over the deliberations and discussions in this Section of the Academy of Medicine. To be appointed to this office I deem one of the highest honours that can be conferred on any member of our calling, and that I am sensible of having been considered worthy of it, is the truth.

I will ever remember with satisfaction that in the formation of this Academy, which was a welding together of all the societies in this city connected with our Profession, and a public declaration and recognition on our part of the unity of medical science, I took a not wholly inactive part, believing that from a vivifying contact of its branches would be derived a new and powerful impulse to its progress, and to the pleasure of finding that these anticipations have been more than realised, is added for me the pardonable pride of having first been entrusted with the responsible duties of Secretary to this Section, and now with those of its President.

It is not my intention to make a retrospect of the surgical work done by this Section since its formation, though such might be interesting and possibly of utility. That which was accomplished last session was, I think, a fair sample of what was done in the three previous ones; and when we consider the range and importance of the communications made—On Dry Dressings in Antiseptic Surgery, by Mr. Kendal Franks; Perforation of the Membrana Tympani, by Dr. M'Keown; the Radical Cure of Hydrocele, by Mr. M'Ardle; Pharyngocele, by Mr. Wheeler; Ectopia Vesicæ, by Professor Bennett; Bone Drainage, by Professor T. Stoker; the Surgery of the Brain, by Dr. Coppinger; the Treatment of Scrofulous Cervical Glands, by Mr. Kendal Franks; Ununited Fractures, by Dr. Fitzgibbon; and the Treatment of Stricture by Electrolysis, by Dr. Hayes—we can recall a group of papers that were at once comprehensive and practical, furnishing proof

^a Being the Presidential Address delivered in the Surgical Section of the Academy of Medicine in Ireland, at the Opening Meeting, November 12, 1886.

not alone of earnestness, ability, and zeal, but also no lack of power to sustain the reputation that has been won for the Dublin School of Surgery by our predecessors.

One of the great—in truth, the chief—uses of societies such as this is to furnish opportunities for that mental friction, that touch of mind to mind, and contact with the spirit of work, which are such important factors in giving a stimulus to effort, fostering that union among workers which is not only a force in promoting scientific progress, but also one which leads to that kindly feeling and fellowship which should exist among all who honestly make effort to advance our science. These advantages, as well as others, must always follow fair, temperate, and earnest scientific discussion, and there are few now, if any, who would endorse an opinion I remember hearing expressed in the old Pathological Society, which was—that one of its chief merits was the absence of all debate or discussion on the specimens exhibited, or on the communications made thereon, a sentiment which was at the time received with loud applause. On another occasion I heard a somewhat similar utterance from one deservedly eminent in our profession, who, deprecating heated discussion on scientific matters and warning his hearers against it, reminded them that it is only when water is clear and tranquil that we are enabled to see the treasures that lie beneath it. But we have to do more than “see,” and it must not be forgotten that it is only after the storm that the fairest shells are cast upon the beach, and the opportunity given us not alone to see them in all clearness, but to study, to learn from, appreciate, and treasure them. To Pericles are given the words : “ Debate, we hold, does not mar action ; the mischief is rather setting to work without first being enlightened ” (Thucyd. II., 40). But for discussion or debate to be fruitful it is essential that there should be a rigid avoidance of all personalities, and a maintenance of that courtesy which characterises and distinguishes a scientific and intellectual aristocracy.

It has always been a source of regret to me since the formation of this Academy that so many members of our profession, both here as well as in the provinces—men of large and varied experience and unquestioned ability—have played so secondary a part in its practical working. Why this should be has always been inexplicable to me, for assuredly the necessity for conference, criticism, and mutual help is, especially in this Section, owing to the area of surgery having of late become so widened, far greater

now than it has ever been. Its life can best be maintained by the persistent recording of accurately observed facts, seen under many phases and circumstances, like the ever-varying pictures in a kaleidoscope, and the more earnest labourers that come into the field and volunteer for so good a work, the sooner may we hope for the realisation of what should always be our common aim and aspiration—the dispersion of error and the diffusion of truth.

It has been well said by our brilliant countryman, Bishop Magee, that no scientific student or teacher ever feels that he has a vested interest in the benefits resulting from any discovery or knowledge he may have acquired. He feels that the result of his toilsome search is not his property alone, but belongs to all men, is revealed to him only that through him all men may become possessors of it, and that to conceal or utilise it solely for his own benefit is a miserly selfishness that carries with it its own Nemesis.

At present there is all the greater necessity for co-operation in scientific research from the existence of many difficulties and chilling influences that in our profession beset us and that we have to contend against, among which may be mentioned the disturbed political condition that now unhappily exists in these countries; for assuredly the scientific advancement of a nation is always greatest when, instead of dissatisfaction and agitation, it has contentment and rest. This chilling influence is accentuated from the existence of a system of rule that, like all popular Governments that exist or ever have existed, is not only careless and indifferent, but often distinctly antagonistic to scientists and their work. A different condition of things is observed among several of our Continental neighbours, notably Germany and Austria, and the result is seen in the fact that of late years we look to a very large extent for light and leading to the great scientific centres in these countries, the Governments of which do so much to aid and foster original scientific research. Here a scientist, unless he happens to be among the favoured few possessed of private fortune, must dilute his work with what will yield more immediately a practical and tangible result. This must be regarded as a misfortune—one which is felt as such not only in a limited and local sense, but in a widely national point of view, for it has resulted in the too-frequent transplantation of scientific laurels to countries and climes not our own. Again, there is the present epidemic of that combined hysteria, senti-

mentalism, and folly, which has done so much to mar the intelligence and sap the judgment of so many men, as well as women, and which has resulted in the State placing cruel and senseless fetters on those whose aim and life-work have no objects but the advancement of our science and the welfare of mankind. It has been well said—"There are many years, but one sentiment between the persecution of Galileo and the onslaught on vivisection." I need not dwell further on this, as the able and eloquent Address delivered in this hall by our President, Dr. M'Donnell, on what Experimental Physiology has done for Surgery, is doubtless still fresh in the recollection of most of my hearers. Lastly, there is the existence of that class which is deserving of our heartiest contempt, the "critic-asters," as they were termed by Charles Reade—a class both in, I regret to say, as well as out of our profession, who apparently never tire of praising dead men at the expense of living ones, and who, because there may not be persons in it who stand out from their fellows in as bold relief as formerly was the case, hold that our profession must necessarily be in a state of decadence and decay. There can be no doubt as to the baneful influence of these persons on many, for nothing is so destructive to honest effort as depreciation or discouragement, or, on the other hand, so healthy a stimulus to effort as a sympathy which is at once hearty and encouraging. There may not be apparent in our profession the commanding personalities, "the Titans among the minnows," like Cooper, Syme, Crampton, W. H. Porter, and Colles—men who towered aloft above all, like forest trees among shrubs; but this is due not to deficiency of ability, industry, knowledge, or power of accurate and original observation in our ranks, as to there being a far higher standard of professional knowledge, which is aimed at by all and reached by many. "A high education is a leveller," are the words of Sir B. Brodie, but has this upward levelling had a beneficial or a pernicious effect on the progress of surgery? The answer can be best found by pointing to the fact that in the regretted days of the much-lauded, and deservedly-lauded heroes I have mentioned, professional knowledge was, in comparison with what it is now, inaccurate and largely empirical, and its progress uncertain, fitful, and irregular. Now, on the other hand, it is advancing steadily, continuously, and with a rapidity which is as amazing as it is unexampled.

It is held by some that in certain of the principal supports

on which surgery rests, the condition of finality has been reached. I recently listened with deep interest to a surgical address by Mr. Erichsen, whose utterances must ever be regarded with the respect due to one who has aided so signally in raising the standard of British Surgery to the high level it now occupies. In dealing with the lines of surgical advance made in our own time he specified operative surgery, surgical precision, and the development of those methods of scientific research which are carried on in the laboratories of the chemist and experimental physiologist. It was to me a matter of some surprise to hear, on the occasion I have referred to, the opinion expressed that the two former of these methods, which may be described under the title of the Art of Surgery, have, it was held, like other arts (such as painting, sculpture, and architecture), reached a condition of finality, and that no further progress need be looked for in any of these directions.

In discussing this somewhat dismal view of the present, as well as the future, of these Arts, we should consider the question in a twofold point of view—first, if any analogy exists between them and that which lies more particularly in our own province; and secondly, if there can be any finality in the other arts Mr. Erichsen mentioned. The aims and objects of those he drew attention to appear to me to be, without doubt, as widely different from surgical art as things can possibly be—the first two being essentially imitative, and the third constructive; and though it is hard to conceive a higher degree of perfection being ever reached in painting than the Sistine Madonna of Raphael, or in landscape than “Crossing the Brook” by Turner, or in sculpture than the Venus of Milo, the “Dying Gladiator,” or Thorwaldsen’s “Hebe,” or in architecture than the Parthenon, or the Saracenic palace of the Alhambra, or the Gothic Cathedral at Seville, who can say with reason that finality has been reached in any of the arts of which the works I have mentioned are such splendid monuments? It is true that in these glorious creations the artists have succeeded in deeply touching a responsive chord in the minds of all who contemplate them, and that within the limits of their particular objects they apparently leave nothing to be desired or looked for; and this result has been obtained in consequence of the great masters who produced them being faithful and earnest students of nature. But are their works indicative of finality? Nature is like an illimitable

ocean which changes with every breath of wind and every passing cloud ; and from the true artist who makes it—in its ever-varying aspects—his study and his guide, who is animated by the spirit that actuated the great workers of antiquity, may we not reasonably hope that in time, in other of her countless moods and aspects as yet unrepresented and untouched, we may look for works equal, if not better even than those bequeathed to us, and which, so long as they exist, must be regarded by those who contemplate and study them with heartfelt gratitude?

Mr. Erichsen illustrates his theory as to the final limit being now reached in surgery by examples drawn from the history of the imitative and the plastic arts, asserting that no art can be carried beyond a certain degree of excellence, which limit once reached no further development need be looked for. But the theory of evolution and development in the history of man, and of the processes of the mind of man, must more or less apply to those arts in which that mind finds utterance, and will be evident in the symbols of successive ages in their infinite variety. No possible advance, he seems to think, can be made, or has been made in sculpture since the execution of the frieze of the Parthenon, the Venus de Medici, or the Apollo Belvidere ; yet when we look clear into the history of this one art we find new varieties of beauty evolving with human perception of spiritual and moral beauty. Even from the Parthenon and Pheidias to that of the younger Attic school—in Scopas and Praxiteles—there is a manifest development, a great step from the period of purely religious art to more human art, which two periods were united by the sepulchral monuments (such as those found in the street of tombs at Athens), of which Dr. Waldstein says :—“There can be no doubt that these works of sculpture bridged over the step from the art of Pheidias to the art of Praxiteles, that they were a stepping-stone from the religious sculpture to that which partook of a more human character.”

If we look closely into the history of the other arts, I believe we will find clear evidence of analogous processes of progressive development. The doctrine of finality, for instance, might equally well have been promulgated in the time of Homer, and the view held then that poetry had reached its goal ; but the production of the great Epic of Greece—well termed the “sun of all ancient literature”—did not prevent or interfere with the subsequent appearance of the imperishable works of Shakespeare,

Dante, or Goethe ; and true as this is of poetry, is it not equally so of all other arts ?

But assuming, for the sake of argument, the existence of finality in these arts, and more particularly those indicated by Mr. Erichsen, is there any analogy whatever between them and surgery ? I have already indicated some leading differences, but there are others ; and chief among them is the fact that the aim and object of surgery is physical repair and restoration of disturbed or lost function to living tissue—tissue the complex nature of which cannot be regarded without awe. Therefore, even if the questionable doctrine of finality having been reached in the arts of painting, sculpture, architecture, or in any other of the arts was well founded, is there ground for supposing from any *à priori* reasoning that this view would hold good of surgery ?

If proof were required of the want of finality in operative surgery, as well as surgical precision, I would recall the fact of the unsettled condition of opinion which exists in relation to the treatment of many forms of surgical injury and disease, a condition of unrest which is observable in very many instances that doubtless occur to you—for example, in the treatment of various forms of bone lesion, such as fractures of the lower end of the radius, shaft of the femur and patella ; also in the operative treatment of tuberculous disease of bone and malignant new growths. Why does this surgical unrest continue ? Is it not in consequence of our observing that operative efforts are at times attended with disappointing and disheartening results, even when made apparently in the most suitable cases and with all the available care and skill of men in whom natural surgical proclivities and great manipulative dexterity are combined with the confidence derived from long, varied, and well-utilised experience. I might indicate many examples of this, but the instances in which I have witnessed such were chiefly in cases of tuberculous disease of bone and in operations for certain malignant new growths, notably lingual cancer—a disease which, in truth, seems (in the great majority of cases) an enemy that may be vanquished for a time, but never conquered. Having regard to these vexed points, the question at once comes to the front—If we had anything like finality in either operative surgical treatment or precision in its application, would the condition of surgical unrest I have spoken of exist ?

In addition to the essential differences between surgery and the

other arts, indicated by Mr. Erichsen, it should be remembered that its functions and objects are not only widely different, but far higher and far nobler than those of any other art. Sir William Bowman, in his splendid address on Surgery, at Chester, quoted the pious saying of old, that the art of surgery is the "Hands of God." The human hands that God permits to be "His instruments of succour to that earthly life and organisation which His power, wisdom, and love, having first brought into being, still alone both sustain and cause to perish when their part is played; to that material organisation which dies every hour it lives, which indeed dies by living and lives by dying, and which wonderfully transmits even its own prerogatives and dark secrets to a succeeding life, destined apparently to remain a marvel and a mystery impenetrable to all generations." What has been the history of the three lines of surgical advance as indicated by Mr. Erichsen? Have we observed in their development that advancement or activity in the growth of any one of them has ever been attended with a corresponding stagnation or lagging behind of the others? There have been times in which the powers and resources of medical science have remained temporarily dormant, and empiricism has in consequence raised its head and reigned supreme, diffusing its blighting influence far and wide—a time when the battle of the orthodoxies and heterodoxies in medicine was as fierce, as irrational, as full of bigotry and dishonesty as it ever was in the analogous mischievous controversies of religion. This pernicious war, with all its senseless din, raged in the schools, until crushed and finally silenced by the unerring artillery of physiological experiment, as elaborated by the ceaseless toil and untiring genius of John Hunter.

Everyone even superficially acquainted with the history of our art is aware that the advancement, development, or strengthening of any one of its three great motive forces, already indicated, has been attended simultaneously with a corresponding advance in the others; and if, as is only too true, biological science has so materially strengthened operative surgery, has this result never been reciprocated, and has not precision in its fullest sense been found to be indispensable to advancement in both? It is, I think, contrary to all probability and experience that in future progress is only to be looked for in one of these three directions. Is it unreasonable to hope that with further developments in antiseptic practice—that boon to surgery for which mankind in

all ages to come must ever be grateful to Lister—and which, in our time, has played by far the greatest part in widening the sphere of operative surgery, that regions hitherto barely touched by the operator may eventually become familiar ground for the exercise of his art? From what has already been done by experiment on the lower animals, and in thoracic disease in man—for example, in empyema, pulmonary abscess, pericarditis with effusion, and in vertebral and costal caries—it is no wild flight of fancy to anticipate a time when a diseased lung may be found amenable to operative treatment. Although brain surgery is still, so to say, in its infancy, we may, having regard to the results already obtained by Prof. Victor Horsley, Mr. Alexander, Dr. M'Ewen, Mr. Godlee, and Dr. Roberts of Philadelphia, and when a wider and more accurate knowledge of the localisation of brain injury and disease is obtained, not unreasonably anticipate an era when operations in many such cases may be regarded as well within the region of legitimate operative surgery; and these remarks apply with equal justice to renal, hepatic, and splenic disease.

In order to insure success in these directions we should steadily and fearlessly pursue our course, relying, not alone on biological research, but I should say also on improvement in surgical precision, and advancement of surgery in its operative aspects, and reject the disheartening suggestion that these latter have unhappily reached their *ultima Thule*—finality. Into the regions where medicine so often has failed to recognise and arrest the progress of disease, surgery advances fearlessly to render aid—aid which happily is often reciprocated—its followers full of hope, enthusiasm tempered by judgment, and confidence in the coming triumphs of our art.

It should be, and is, a genuine source of pleasure to us all—physician and surgeon alike—that we live in a time when we can view with satisfaction and content the destruction and grim ruins of those anachronistic barriers that in days gone by were erected by foolish men between Medicine and Surgery—barriers which were in so many ways fruitful of mischief, creating feelings of mutual jealousy and thinly-veiled dislike, and keeping us divided, powerless, and weak. They stimulated a conflict of selfish interests, obstructed the advancement of our common calling, prevented its elevation in public esteem, and in no small degree deepened the cold shade of official neglect. Under the

influence of a happy reciprocity and overlapping of our work, aid mutually offered and mutually accepted, by slow but sure steps—steps gathering strength from the irresistible wave of human progress behind them, and guided by those whose undimmed lamps burn with no borrowed light—a sure advance is being made to that goal desired by all—Unity in the Science of Medicine.

The fact that there have been, even in our own time, so many violent vibrations of the pendulum of opinion and practice in medicine and surgery has been often urged against our profession as a reproach. For example, it has been seen to swing from the almost indiscriminate use of blood-letting, to the deprivation from the system of a single drop of blood being viewed with apprehension; from the wholesale use of mercury in the treatment of syphilis to a period when, with more energy than discretion, it was stoutly held to be not only unnecessary but injurious instead of beneficial, and finally stigmatised as an “accursed drug.” Now again the pendulum, actuated by the motive force of common sense, has gone to a great extent back to its former position, and we acknowledge that the error made in the first instance, related rather to the mode and time of the administration, and in the quantity that was given. Again, alcohol, in the memory of most of us, was given in febrile and other diseases with a liberality which in the present day would seem distinctly harmful; and among many other revolutions in practice may be indicated the various phases of opinion as regards wound-dressing, and also the estimate of the therapeutic value of the operation of trephining. A century ago it was freely, doubtless far too freely, employed, not only as a means of relieving brain-pressure, but also as a prophylactic to meningeal or cerebral inflammation. A reaction of opinion then set in, and for operative interference in these cases there was great indisposition. Now the operation has again asserted itself and is warmly advocated, and I believe rightly, in a far wider range of cases of injury and disease than it was at first. This result is doubtless the outcome of improvements in antiseptic practice, and the improved knowledge we have obtained of the localisation of brain disease, though it must be admitted that in this field of medicine we are only on the threshold.

But is there any justification for holding up, as has been done, our profession to scorn in consequence of these vibrations of the pendulum, or rise and fall in the tide of professional opinion?

Is it not inevitable that such should occur in the application of a science which, without any reproach, can never be ranged among the "exact" sciences—to an art exercised on all sorts and conditions of men and women, varying in age, occupation, nationality, habits, social status, in wealth, in poverty, in health, and in disease? Again, is the doctrine of change of type in disease one wholly to be rejected? It finds, doubtless, but a limited acceptance among modern pathologists, but, notwithstanding, it is one firmly believed in by many of our more thoughtful physicians, distinguished alike on account of their great experience and exceptional powers of accurate observation. Among these I may mention my colleagues, our late President, Dr. Banks, and also Dr. Gordon, both of whom unhesitatingly accept the doctrine of Change of Type in disease. Graves, too, in his "Clinical Medicine," speaking of the variations in scarlatina and other diseases, as observed by himself and others, remarks that they "establish the real existence of a change in the constitution of diseases." Some forms of so-called surgical disease, formerly familiar to me in my student days, have disappeared, or are observed but rarely and in a mitigated form. I allude more particularly to the extensive and violently acute forms of syphilitic phagedæna, such as were described so graphically and vividly by that close and accurate observer, Mr. Wallace—phlegmonoid erysipelas, and acute gangrene; cases of which, during my student days, were too frequently the subjects of observation and treatment in the surgical wards of our hospitals; also instances of those often fatal forms of anthrax and cancrum oris, the latter relentlessly sparing no structure, and usually uninfluenced by treatment, however bold, rapidly pursuing its fatal career till checked by death alone. Of such cases little conception could now be formed by the surgical student were it not for the descriptions and illustrations which fortunately survive, and of which latter there are such signal examples in the Museum of the Richmond Hospital by Conolly, who, as a faithful and trustworthy pathological artist, has never had a rival.

It is, therefore, under all these circumstances, not surprising that there has been so much variation of opinion as well as of treatment, and they show how undeserved are the reproaches to which the profession has been so often subjected, unhappily furnishing excuses for the public being so often influenced by the reckless assertions of an unscrupulous empiricism. Among those whom we find blaming

the profession for their frequent "change of front," we find even Professor Humphry, the eminent Professor of Surgery in the University of Cambridge. He has observed—"If the profession is thus liable to be beaten from pole to pole by the changing blasts of fancy and fashion, it is no wonder that the public are wavering in their confidence, and are capable of being attracted by the bold promises of empiricism under whatever form its head is raised."^a But, still, though we must regretfully acknowledge that there is a strong element of truth in the existence of many such unhappy consequences of much necessary instability in professional opinion, we can always get comfort as well as confidence in the ultimate triumph of medicine, by bearing in mind one of the many wise as well as eloquent sayings of the great Nestor of our profession, whom all men revere and delight to honour—Sir James Paget—who has said—"We may seem to move in circles, but they are the circles of a constantly ascending spiral; we may seem to sway from side to side, but it is only as on a steep ascent which must be climbed in zig-zag."^b

In the preceding remarks I have endeavoured to point out that progressiveness in all the arts, including our own, has ever been synchronous with the advance and development of human knowledge in all other directions, and that this development manifests itself, and will continue to manifest itself, in an infinite variety of ways. Having regard to the fact that the human family may be said to be still young on the earth, the future progress of all arts and sciences is as certain as that "we live, and move, and have our being." We may then feel assured that surgical art will, in all its branches and lines of advance, continue to progress, preventing us ever saying with Alexander, "Our fathers have left us nothing to do." In bequeathing to us so noble an inheritance of knowledge as they have done, the result of their untiring toil and genius, they have left us much to do. It is an inheritance carrying with it not alone a deep responsibility, but one which should make us determine not to let the wheels of progress which they set in motion end in a hopeless deadlock of finality; and also, to stimulate an aspiration—one which should be common to us all—to accomplish "something ere the end;" something not unworthy the heirs of those who had—

". . . . That strength which in old days
Moved Earth and Heaven."

^a The Hunterian Oration, by George Murray Humphry, M.D., F.R.S., 1879.

^b Inaugural Address at International Medical Congress, 1880, by Sir J. Paget, Bart.

ART. XV.—*The Progress of Pathology.*^a By WALTER G. SMITH, M.D. Dubl.; Physician to Sir Patrick Dun's Hospital; King's Professor of Materia Medica, School of Physic, Trinity College, Dublin.

MY first duty is to express my acknowledgment of the position in which, by the favour of the Council of the Pathological Section of the Academy of Medicine, I am now placed, and my hope that in the conduct of the session I may not unworthily follow in the steps of my predecessors in this chair.

It would, I feel sure, be more agreeable to your wishes, as certainly more in consonance with my own inclinations, to make no delay before proceeding to the business of the evening, but it has been the custom—sometimes, indeed, honoured in the breach—that the incoming President should exercise the dubious privilege of opening the session by some introductory remarks. Mine shall be brief.

Looking back upon the work done in the past session, we find reason for congratulation in the record of material brought before this Section, in the value of the communications, and in the interest taken in them by the members, as evidenced by the attendances at the sectional meetings.

It is worthy of note that in our Transactions several papers upon comparative pathology appear. This is a subject upon which, doubtless, the Section will always be ready to welcome communications, and our provincial brethren might help us in this department. In the Transactions of the Pathological Society of London we find, of late years, a not inconsiderable share devoted to diseases of the lower animals, with occasionally a presentation of correlative morbid changes in the vegetable kingdom, and thus their many points of contact and of contrast are more abundantly illustrated.

We now enter upon our fifth session as a branch of the Academy of Medicine, yet when we remember that we are really but a continuation of the Pathological Society of Dublin, we may say that two years more will bring us to our golden anniversary, for the Pathological Society of Dublin—the first of its kind in the kingdom—was constituted in October, 1838, under the leadership of six presidents, whose names then ran thus—Mr. Carmichael, Mr. Colles, Mr. Crampton, Dr. Cusack, Dr. Graves, and Dr. Marsh.

^a Being the Presidential Address delivered before the Opening Meeting of the Pathological Section of the Academy of Medicine in Ireland, November 5, 1886.

Of the original members five survive, one of whom is still rarely absent from our meetings, and is a veteran contributor to medical literature.

How vast a change has come over the domain of pathology since that time, and how rapid and far-reaching has been its recent development, there is no need to emphasise.

One significant difference may be noted between the rules framed by the original society and those now in force. Rule 1 of the old Pathological Society stood as follows:—"This Society shall be denominated the Pathological Society of Dublin, and shall have for its object the cultivation of Pathological Anatomy, particularly with reference to the diagnosis and *treatment* of disease." Rule 63 of the Academy of Medicine runs thus:—"No lengthened reference to treatment shall be allowed upon any (pathological) specimen except by the express permission of the chairman."

This rule should be understood as intended rather for the better distribution of work in the different sections of the Academy, and not as expressing a disassociation between pathology and therapeutics. For while we cannot deny that much of our best treatment is empirical, and that perhaps the most successful practitioner is he who has his memory stored with the largest number of empirical remedies, sanctioned by intelligent clinical observation, the great truth nevertheless remains that every rational system of therapeutics is founded upon pathology. Scientific pathology—not mere morbid anatomy—may make a man less reliant on drugs, but it will also render him a more careful therapist, and qualify him to better understand the problems of disease and its treatment.

No one now-a-days can aspire to rank as a well-educated physician or surgeon who does not learn at least the rudiments of pathology and make some attempt to keep himself abreast of the swift advances of that science. This has become almost a truism, and many of the examining boards and centres of medical teaching recognise the fundamental importance of pathology and make due arrangements accordingly. But what of Ireland? In no university, college, or medical school in this country, so far as I am aware, is there adequate provision by the authorities for the efficient teaching of this important subject, and a Chair of Pathology is conspicuous by its absence.

For some years past, in the School of Physic, Trinity College, my colleague, the Professor of Institutes of Medicine, has with an

industry all his own, and with a rare self-sacrifice, taken upon himself the additional burden of giving an admirable practical course of instruction in pathology. So much appreciated are these demonstrations that many are obliged to turn away for want of accommodation. But this state of things should not be. The willing horse must not be over-driven, and, for very shame sake, the authorities of our medical schools will ere long be compelled to remove from Dublin the reproach of being the only great medical school in the United Kingdom left unsupplied with the means for suitable training of its students in pathology.

In London the heads of the principal medical schools are wakening up to the signs of the times, and, alarmed by the competition of other and better-equipped schools, have lately spent large sums in developing the resources of their respective institutions, and especially in the organisation of ways and means for pathological instruction.

Histology, one of the handmaids of pathology, is now well taught in most schools. Its necessity as an aid to clinical study and to the investigation of morbid anatomy is fully recognised and its *technique* sedulously cultivated. One offshoot alone of histology has assumed such proportions and become so intricate in its mazes that it necessarily, and increasingly so, is being abandoned to experts who possess the ability and have the time required to unlock the profound secrets of bacteriology.

Yet, over and above the difficult questions involved in the morphology of minute organisms, we are learning to regard them from another point of view, whither the microscope is unable to follow them. Here we invoke the assistance of the chemist.

The evidence is accumulating that an explanation of many of the effects traceable, in the first instance, to bacteria is to be sought through the medium of chemical products elaborated under the influence of these micro-organisms. In this connection we note the interesting investigations, still in their beginnings, which have been made into the production of substances of alkaloidal properties from dead putrefying organic bodies (ptomaïns), and even in the normal living organism (leucomaïns). Some of these are virulent poisons of diverse sorts and potency, possessing narcotic, tetanising, curare-like, atropin-like, and muscarin-like properties.

To the action of such poisons may, with great probability, be ascribed the alarming illnesses and lamentable deaths which have occurred from dissection-wounds, and from the ingestion of various

tainted articles of food, such as fish,^a cheese, sausages, and preserved meats.

Special forms of bacteria give rise to definite chemical changes, and some forms are indifferent chemically. For example, Brieger has recently shown (*Zeitschrift für phys. Chem.* IX.) that Friedländer's pneumococcus, tested by appropriate methods, possesses only a very slight power of chemical decomposition, and that consequently this factor can have little to say to its activity in the animal organism. Among the chemical products of bacteria we now also reckon many beautiful pigments, and in these we find an explanation of several clinical and pathological facts which were formerly a puzzle or were summarily explained away as examples of fraud or malingering—*e.g.*, coloured sweat, blue pus, &c.

Physiological and pathological chemistry can scarcely be said to be of recent birth, yet for many years its growth was slow and halting. But within the last quarter of a century organic chemistry has received a vast impetus, which is reflected in the rapid extension of the domain of animal chemistry, and some of the ablest men devote themselves to its pursuit with results not incommensurate with the labour bestowed upon it. Chemistry and physiology are daily becoming more closely intertwined, and physiological chemistry has assumed such dimensions that it has created an extensive literature of its own, and it occupies a honourable position in some of the great universities side by side with other important and older branches of science.

Since pathology is but physiology viewed under another aspect, may we not hope (taking encouragement from the conquests already made by the physiological chemists) that a widening field of discovery and one rich in practical results will be the outcome of combined efforts to apply the teachings of modern chemistry in the region of pathology.^b

Let us glance for a moment at a few of the promising veins of research which even now have been opened up.

^a There are two categories of fish-poisoning—(a) from fresh fish ; (b) from preserved fish. Certain fish in Polynesian waters are, for several months, poisonous, and are avoided by fishermen and the inhabitants ; at other seasons they are freely eaten (Virchow. Ueber die Vergiftung durch Miesmuscheln. Berl. klin. Wochensch. 48, 1885).

^b A curious and suggestive discovery is recently announced by E. Freund of the occurrence of cellulose (or at least a substance showing all the reactions of cellulose) in tuberculous patients. He failed to detect it in 30 cases of non-tuberculous affections (Nature, Oct. 14, 1886, p. 581).

It was long ago pointed out that chemical examination would, in a doubtful case, give important aid by distinguishing the non-albuminous fluid drawn off from a hydatid cyst from the albuminous contents of other cysts or transudates. Again, we may sometimes possibly gain help in discriminating ascites from ovarian dropsy, for Hammarsten (*Zeitsch. f. phys. Chem.* VI., p. 194) tells us that he has invariably been able to demonstrate the presence of paralbumin in every typical ovarian fluid which he examined, while he as constantly obtained negative results in the examination of ordinary transudates. In the few cases in which he did meet with paralbumin in ascitic fluids there was in every instance an ovarian tumour likewise present, which had discharged part of its contents into the abdominal cavity.

Paralbumin he looks upon as a mixture of a body he terms pseudo-mucin (metalbumin) with variable amounts of albumen. While, perhaps, some doubt attaches to the nature of pseudo-mucin, we are reminded by its name of the mucin group, and recall the curious observation of the presence of large quantities of mucin in the tissues of persons suffering from that strange disease, myxœdema, and in the bodies of animals who have been subjected to thyroidectomy. In monkeys, after the removal of the thyroid gland, the increase of mucin in the connective tissues is from 3-4 times the normal amount.

Upon the great family of the albuminoids light is beginning to break, and we are learning to distinguish different forms of albumen which are not without pathological meaning. In passing, I may remark that an immense step will have been gained whenever we succeed in penetrating the mystery of the chemical constitution of albumen, and a key will then be afforded towards the solution of numerous deep problems in biology.

If we now turn to the urine we rightly expect chemistry to help us here; and it will be admitted that our knowledge of the metabolic processes of the human organism has within recent times been materially enriched by the investigations which have been instituted into the synthetic and reduction changes which are naturally accomplished in our bodies, or are performed upon drugs or chemical substances introduced for experimentation.

I cannot now attempt to illustrate this in detail, and must be content with pointing to the large body of researches which have been carried out upon the mode of action and the transformations of the extensive group known as the "aromatic compounds"—

e.g., the phenols and their allies, and the indigo-yielding compounds.

For the comprehension or explanation of many morbid states—particularly such cases as diabetes, jaundice, and uræmia—we have to appeal at every turn to chemistry. We are becoming familiar with the terms acetonuria and acetonæmia, and with the interesting questions as to the possible bearing of these conditions upon the production of grave symptoms or sudden death.

Many other topics suggest themselves for comment—*e.g.*, the chemistry of gastro-intestinal derangements—but time fails, and enough has been said to show that the future is full of promise. Day by day the well of pathology is being dug deeper and its borders enlarged. And not only this. From time to time fresh springs of knowledge percolate its walls, increase its fruitfulness, and render its waters a brighter reflex of the light of medical science. And so, from the study of morbid events—nay, of death itself in its various moods—although we cannot lessen them, yet may we come to know in part some of the hidden things of life which at best we can but view as “in a mirror darkly.”

ART. XVI.—*Narcolepsy (Sudden Periodical Sleep-Seizures)*.^a By ARTHUR WYNNE FOOT, M.D. Trin. Coll. Dubl.; Fellow, King and Queen's College of Physicians; Fellow and Member of General Council, Academy of Medicine; Professor of Practice of Medicine, Royal College of Surgeons; Senior Physician, Meath Hospital; &c., &c.

THE term Narcolepsy, which may possibly be unfamiliar to some, is the name under which M. Gélinau^b described, in 1880, a rare form of neurosis characterised by an irresistible desire to sleep, sudden in its onset, lasting but a short time, and recurring at more or less prolonged intervals. For ten years I had kept buried in my note-books a curious case of morbid somnolence taking the form of periodic sleep-seizures, which I was at a loss how to describe until I long afterwards met with the name narcolepsy, which is so appropriate that it seems to me to be the disease so named by M. Gélinau.

^a Read before the Medical Section of the Academy of Medicine in Ireland, Friday, 19th November, 1886.

^b In a communication made to the Académie des Sciences, 7 Juin, 1880. Reprinted with additions, as a thesis (pp. 77) in 1881.

The subject of the curious affection I am about to describe was a young gentleman, aged eighteen, with a history of no illness previous to the present, except an attack of measles. His appearance was what would be called healthy; he was $9\frac{1}{2}$ stones in weight; 5 feet 8 inches in height; was of a dark complexion; his eyes were lustrous and rather prominent; he had a good colour in his cheeks; his expression was candid and intelligent. He did not use alcohol, opium, or tobacco, and I came to the conclusion that his statements as to his being unacquainted with any form of sexual indulgence were to be regarded as truthful. He was fond of books and music, liked mixing with company, and was a good amateur sailor. His residence at Waterford gave him full opportunities to gratify his love for boating.

He was brought to me in the month of December, 1874. He said he came to get cured of a sleepiness from which he had been suffering for a year and a half. This sleepiness came on every day at the same hour, between 2 and 3 o'clock, whether he was sitting, standing, or walking about, and quite irrespective of meal times. He felt it coming on, and was sensible of its approach but powerless to resist it. Unless he was forcibly roused from it by pulling, shaking, or shouting at him, it continued for two or three hours, when it disappeared gradually. While in the sleepy state he can perform automatic movements, but in an imperfect manner. If it comes on while he is speaking or writing, he talks incoherently or writes nonsense; the pen is apt to drop from his hand when writing, and the knife and fork at dinner, when the sleep-seizure takes him. When overtaken by it walking in the street he can usually find his way home, but has lost his way, and has been observed to walk unsteadily and knock up against people. When in the somnolent state he can see and hear, but not distinctly. He says he is annoyed by the way people look at him in a railway carriage, the motion of which will make him fall asleep at other times as well as in the afternoons, so that he has frequently been carried past the station he intended to get out at. Coming across the river at Waterford he has stepped out of the boat into the water before he had reached the landing slip. Even the excitement of sailing his boat single-handed did not prevent the sleep coming on at its usual hour, and he has beached his boat on a tidal slob, and had to remain there for hours, when out sailing by himself, from not minding what he was about. He falls asleep at the piano in the middle of a piece of

music. The effect of forcible disturbance of his sleep was to produce such irritability and passionate excitement that his family did not resort to it, but let him sit or lean back in a chair till it passed off. *There was never any form of convulsion or spasm observed to attend the sleepiness.*

This state of things had been going on for a year and a half before I saw him, and continued with little variation for three years, during which I saw or heard from him frequently. He referred its commencement to a particularly warm day in May, 1873. He had been exposed to the sun all this day, and the sleep seized him while sitting under a tree. So natural an occurrence did not strike him as at all surprising; he continued to get sleepy daily about the same hour, yet did not become uneasy about it till a year had elapsed. He was then for some time under the care of the late Dr. Cavet, of Waterford, who gave him bromide of potassium, and also tried to avert the attacks by quinine without effect. When I saw him in December, 1874, there had been only two days in the preceding six months on which he had not had sleep attacks.

There were several marked neurotic traits in this young man's family history. He had an aunt who was imbecile, and a younger sister subject to epileptic fits, and who was under the care of Sir Dominic Corrigan. One of his brothers at nine years of age became silent, and after remaining so for six months began to speak again, and continued to do so in his usual manner. The cause of this boy's silence seemed to be connected with some emotional disturbance. There was a story in the family of an apparition having appeared to him, which told him that the best way to avoid telling a lie was not to speak at all. At first this boy used to repeat the same sentence three or four times; then he ceased speaking altogether. He did not even make an exclamation. For instance, when one day, on getting out of bed, he trod upon a needle, which ran into his foot, he said nothing, but merely removed it. He was quite sensible, and in playing cards his family used purposely to play unfairly with the object of surprising him into some observation, but they always failed to make him speak. Suddenly, after six months' silence, on his mother one day entreating him to speak to her, he commenced to do so in his usual manner.

In addition to this neurotic history the patient exhibited some proofs of a very mobile nervous system, in the great acceleration

of the heart's action which occurred upon his visits to me, though it quieted down in a short time. On these occasions re-duplication of the first sound would occur, frequently a systolic apex murmur, always great rapidity of action. He told me he has felt a hot flush run along each side of the neck when he rang the hall-door bell. He had what is called a "bad head for heights," could not look over a cliff or go up a ladder, was easily made giddy or sick, therefore could not dance or go in a swing. He was invariably sea-sick whenever he went outside the smooth water of Waterford harbour into the open sea, although he had been all his life accustomed to sailing.

In speaking of the treatment I may be very brief, inasmuch as he derived no permanent benefit from anything I could suggest. The use of leeches behind the ears occurred to me because he had a sensation of weight in the head before the sleepiness fell on him, and because he had occasional epistaxis to a moderate amount, but especially because I was aware of a case of what I would now call narcolepsy, whose convalescence was believed to date from a sharp attack of epistaxis. Leeches behind either ear alternately were ordered once a week; he was also put on full doses of liq. ext. ergotæ, and a combination, in pill, of belladonna, digitalis, and oxide of zinc. After four weeks of this treatment he reported that he had escaped the afternoon attack on three different occasions—first for one, then for two, and then for three days—intermissions longer than had ever occurred before. He was in great delight, and thought he was cured; but after the three-day respite the attack returned on the fourth day. A medical friend who was observing him in Waterford wrote me that the prominence and lustre of his eyes were lessened, and his complexion was less florid; also that he had had some sickness of stomach—probably from the ergot. In the midsummer of 1875 he took ten-grain doses of quinine after breakfast on three consecutive days. On the first two days no attack of sleep came, but an incomplete one occurred on the third day—that is, he did not actually fall asleep, but became so drowsy he had to lay down a book he was reading. The dose of quinine was then increased to 15 grains every day after breakfast. This had the effect of postponing the attacks to the evenings; they were also lighter, as he was able to struggle against them and partially stave them off. He writes at this time—"The sleepiness, I fear, is not quite driven away yet, but I find it much easier to overcome it." In a

very short time he found the drowsiness attacked him whether he took the quinine or did not. He used to omit it sometimes, because he had directions not to take it on days on which he had any headache. The quinine was abandoned, and he was then put on 8-minim doses of Fowler's solution, three times a day, after meals. After a month of this treatment he was no better. On one occasion while taking the arsenic he had a discharge of urine during the sleeping fit. Such a thing had never happened before, and he was greatly concerned about it. He had seminal emissions about once a week at night, but never during the day sleeps. He had never had nocturnal enuresis.

Early in 1876 headaches became more frequent, and he began to complain of extremely vivid dreams at night. He then tried drachm doses of liquid extract of guarana after breakfast and at two p.m., just before the time of the seizure. He tried this for a month without benefit. He had previously been often given strong tea or coffee to keep him awake, but they had failed to do so. In March of this year (1876) he began to exhibit an unusual degree of irritability when coming out of the sleepy state; he was snappish and cross to everyone to a degree which he used afterwards regret. He now began to feel a sensation in his right wrist, when awakening, "like an electric shock." In May (1876) he went to London, and consulted Dr. Russell Reynolds, who ordered him dilute nitro-muriatic acid with taraxacum and calumba. After using this for three weeks without result, he saw him again, and was put on a mixture of ergot of rye and hypophosphite of soda. The sleepiness was worse in London than it had been anywhere else. The next time I saw him (September, 1877) was more than a year after his visit to London. He was still just as much subject to the attacks as before, and was, in addition, disturbed in his sleep at night by "horrible dreams," and by a frequent sensation of some one holding him by the hand, which made him feel very uncomfortable, as he knew there was no one in the room. He now noticed a point in the back of his head, about the apex of the lambdoidal suture, which felt sore and tender to touch or pressure before the sleep came on.

I have lost sight of the case since the end of 1877. From inquiries made, I believe his family have left this country, and gone to live abroad.

In an article on Epistaxis, by Mr. Rawdon Macnamara,^a there

^a *Dubl. Quart. Jour. Med. Sci.* Vol. XXXIII., p. 39. 1862.

is so clear a case of narcolepsy that it will be excusable to refer to it in connection with the present case. It was that of a young lady, aged about fifteen. The most remarkable feature in the case, and that for which he was consulted, was the suddenness with which she would fall into a state of profound sleep. Sitting in her chair, in the midst of a conversation apparently of the highest interest for her, in the middle of a sentence, her chin would drop forward on the sternum, and she was in a profound slumber—so profound that the loudest *noise* could not disturb her, but, the *slightest touch*, and she would start up as wide awake as if she never had been asleep. The same phenomenon would occur at her meals; in the midst of the process of mastication, with the morsel still in her mouth, suddenly would she drop off asleep; and many was the time that her relatives dreaded lest she would thus be choked. Coming down stairs she would lean up against the wall and be off to sleep. The catamenial period had presented itself a few months previously, and in that respect everything was normal. But perhaps the most painful scene was to witness her at the piano (she was highly educated, and for years an accomplished musician). On more than one occasion her aunt would ask her to play for her some piece or other of music; the first few pages would be played with great spirit and accuracy, but when she came to the last page or so one could easily recognise the struggle with which the performance was carried on, and the last few bars were painful beyond description, from the slow, laboured effort with which she concluded the piece—then a deep sigh, and then she was once again fast asleep. This state of affairs continued for some time, becoming each day, if possible, worse. Her convalescence dated from a rather sharp attack of epistaxis, which occurred after the repeated application of leeches in different directions about the head, by which means depletion had been carried on as far as it was judged that it could be done with prudence.

Under the heading Lethargy, Dr. Graves describes a case of this affection which is not included in the fourteen cases M. Gélineau has been able to collect. Dr. Graves writes:^a—“I know a gentleman advanced in life and of plethoric habits, who has been for several years affected with lethargic symptoms, but without any headache, tendency to paralysis, or impairment of his general mental energies. He is frequently attacked, however, even at his meals, with unconquerable sleepiness, and it is surprising how

^a *Dubl. Quart. Jour. Med. Sci.* Vol. XI., p. 4. 1851.

suddenly it comes on ; thus he will be sitting, talking quite cheerfully, and unexpectedly he drops into a sleep, which lasts for about half a minute or a minute, and then he arouses himself and continues awake for a few minutes longer. This happens so often that he cannot now venture to go into company. This drowsiness comes on so quickly that at one meal he has broken three or four glasses by becoming unconscious after the act of filling the glass, and during the time he was raising it to his mouth. He was consequently obliged to have an attendant to watch him going to bed, lest he might fall asleep in an inconvenient place or position, or might endanger the safety of the house by allowing the candle to fall."

On the present occasion I will offer but a few remarks, and will make them with the utmost brevity. And first, as to the nomenclature of the disease, I would suggest, though with no desire to supplant it, that "hypnolepsy" would be a more expressive term. In narcolepsy the word *νάρκη* means a becoming stiff—numbness, deadness, such as would be caused by palsy, frost, fright—and can only indirectly have the secondary meaning of quiescence from sleep, whereas the word *ὑπνος* conveys no idea of rigidity or numbness, but only that of ordinary sleep.

Secondly, this is quite a different affection from the sleeping sickness (*maladie du sommeil*) of the tropics,^a and which is almost endemic on the western coast of Africa ; for this latter is almost invariably fatal, exclusively attacks the black population, and is usually associated with glandular swellings in the neck.

Thirdly, from epilepsy, to which at first sight it may seem to be related, it has remarkable points of difference—in there being neither tonic spasms nor clonic movements, in the preservation of common sensation, and in the consciousness, to a certain degree, of what is going on around. It is also noteworthy, in reference to this point, that neither picROTOXIN nor the inhalation of nitrite of amyl has proved of any more service in this affection than has CAFFEIN or the valerianate of CAFFEIN.

In a paper read before the New York Neurological Society in March, 1884, Dr. C. L. Dana thus classifies the different forms of "Morbid Somnolence"—Epileptoid sleeping states ; Hysteroid sleeping states (including trance, lethargy, and mesmeric sleep) ; and Narcolepsy ; which form of morbid somnolence he regards as the expression of a distinct neurosis.

^a See Irish Hospital Gazette, January, 1874, p. 14 ; and British Medical Journal, January 2, 1875, p. 5.

ART. XVII.—*Notes on Famine Diseases.* By ALEXANDER PORTER, M.D., F.R.C.S., M.R.I.A.; Brigade Surgeon, I.M.S.; Fellow of the Madras University; and Professor of Medical Jurisprudence, Madras Medical College.

(Continued from page 375.)

IV. CHOLERA.

CHOLERA is probably not, strictly speaking, a bowel complaint pure and simple, but for many reasons it is convenient to consider here the few cases that came under dissection at this period. These amount to 13 in all, consisting of 7 men, 4 women, and 2 children; but although few in number they illustrate some of the most common phases of the disease—patients brought to hospital dead or dying, stricken down from perfect health in a few hours; others attacked while suffering from an ordinary bowel complaint. Those who consider the disease an aggravated bowel complaint will find among these cases examples of diphtheritic effusion and other appearances of the severest type of alvine flux; while the advocate of the disease being a sort of sunstroke is not without a case in point in one of the children.

As to causation, those who advocate lumbrici in the intestine as a cause can find lots of evidence of their theory among these cases; while the advocate of the air or water theory would have had as little difficulty in obtaining at the Famine Relief Camp evidence supporting his own particular view. One thing seems certain—viz., that the first case in an outbreak of cholera is always a person who has come from a place where the disease prevails, and somehow from him it spreads; another point observable is that a resident is less liable to be attacked than a stranger who is perhaps only passing through the station or village where the disease is prevalent.

As to the duration of the attack in the present cases, one man was brought in dead after an illness, it was said, of eleven hours; two died in nineteen, having been ill about four, hours; and one lived seventeen days, having been ill some hours on admission with very marked symptoms of cholera; three men were attacked after an average of nine days in hospital with diarrhoea or dysentery, and died in an average of fifteen hours; one woman was brought in dead, having been ill nearly a whole day, it was said; and one was brought in all but dead, without a history; one died in forty-eight,

*Duration of
attack.*

having been ill on admission about four, hours; and one was attacked after having been four days in hospital with chronic dysentery, and died in thirty-six hours; both children died in thirty-six, having been ill on admission about four, hours.

Contents of Small Intestine. The small intestine was found empty in one woman and one child; contained "rice-water" fluid in four men and two women; blood-tinged semi-pultaceous fluid in two men and one woman; yellow fluid in one man; and a little green pult in one child. *Lumbrici.* Lumbrici to the number of 95, including those that had reached the mouth or large gut, were found in five men, three women, and one child. In the child three were in the mouth and three in the small gut. The average for the men was nearly eight, and for the women nearly seventeen each; as many as forty were found in one woman, while twelve was the largest number found in one man.

Contents of Large Intestine. The large intestine was found empty in both children, and in one man and one woman. In the man it was distended with gas, and in the woman it had some red mucus adherent to the mucous coat.

In four men and three women it contained "rice-water" stools, and in two men it contained secondary cholera stools, blood-tinged semi-pultaceous fluid. Lumbrici had reached this part of the gut in three cases, and they were found in the mouth in two cases.

Walls of Small Intestine. The walls of the small intestine were thin in both children and in two men; in one this was most marked in the lower end of the ileum; and they were anæmic in both children and in two adults. In one child the gut was tinged livid *en masse*, and in the other an odd venous radicle showed through, and the mucous membrane near the valve was white, rugose, and somewhat thick. In a man who had been ill some time with dysentery, the mucous coat was thin and pale, with a livid tinge in the ileum, especially towards the valve, *Anæmia.* from venous radicles showing through; and in a woman who also had been ill some time with dysentery it was anæmic and pigmented, pale slate-coloured. In the remaining six men and three women there was congestion of the whole mucous coat, and sometimes of the sub-peritoneal tissues also.

Hyperæmia. The character of the injection was deep rose in a man, reddish pink in a man and a woman, bright red in a man and a woman, red with lengths deeper red to

livid in two men, deep red paling towards valve in a man, and livid deeper in parts in a woman.

In three men and three women the peritoneal surface was red to deep livid from injection of the sub-peritoneal vessels. In one of these—a man—the mucous coat was only deep rose-coloured, and in another—a woman—it was anæmic and slate-coloured.

Peyer's patches were remarkably prominent in one *Peyer's patches.* of the children, and in a man they looked depressed from the prominence of the surrounding membrane, and they were a much paler red than it.

The solitary glands were pale and prominent and *Solitary glands.* about the size of No. 9 shot in six men, three women, and in both children. Besides in the children, there was no injection of the mucous coat in the case of one man and one woman. The distribution of the enlarged glands was all through the gut in the children and in some adults, but they were always most conspicuous in the ileum.

There was a spot or two of submucous ecchymosis *Submucous Ecchymosis.* in the jejunum in two men, and about a hundred spots (some an inch in diameter and a few prominent) in the jejunum in the woman in whom there was no injection of the mucous coat. And in one of the children the whole mucous tract was studded with punctated ecchymoses each a line or so in diameter.

A pseudo-membrane was present in this part of the *Pseudo-membrane.* gut in three cases. It was of some thickness, rough, and confined to the lowest two feet of the ileum in the man who died from secondary cholera; it formed a gray film in the ileum, and was removable in places in a woman who died from cholera in forty-eight hours, and it lined the ileum and was unaccompanied by congestion of the mucous coat in another woman, who had been ill a fortnight with dysentery and thirty-six hours with cholera. *Pigmentation.* Pigmentation of the mucous coat was present in the last case and in the case of the man who died from secondary cholera.

The walls of the large intestine were thin and pale *Large Intestine.* in both children; in one the mucous coat was dingy, with livid mottles from injection of venous radicles, and was stained green. In a man the mucous coat was pale, and in another it was rosy, with the solitary glands prominent and white; in a woman it was dull *Pale. Rosy.*

pink, with pseudo-membrane adherent in the ascending colon, and patches of brown effusion into the coat in the transverse and descending colon. In a man it was dull red with prominence of solitary glands in the ascending and transverse colon, paler in the descending colon, but deep livid lower down. It was deep red in three men and two women; in one of the former the injection was deepest in the cæcum, and the mouths of the follicles were seen as minute white circles all through, but most markedly in the transverse colon; in one the coat looked as if washed in blood, and in the third there was a pseudo-membrane lining it all through, the injection being absent from the descending colon.

In a man the injection of the mucous coat was dark livid at the end of the gut, paler in the middle, and with filmy patches of pseudo-membrane in the cæcum; and in a woman it was dark livid, deeper in parts, but less so in the sigmoid flexure, and it was lined all through to the descending colon with a pseudo-membrane, which was thick at its termination and seemed recently shed from the lower end of the gut.

A pseudo-membrane is thus seen to have been present in four cases—two men and two women—three of them the same cases as we have seen this lesion to have been found in the small gut, and the fourth a man who had been a week or so ill with dysentery and died from cholera in eighteen hours. This is the case above mentioned in which there were filmy patches on the cæcum.

And the solitary glands were prominent in the cases of two men and one woman given in detail above.

There was some swelling, accompanied by deep congestion of the mucous coat, in one of the men who had been under treatment for dysentery, and in the man who was brought in dead. And there was thickening of the tissues at the lower end of the gut in two of the dysentery cases—one a man and one a woman.

Ulcers were found in three men, one woman, and one child. The latter was brought in with his mother, No. 356, without a history, and died in a few hours. The ulcers were few, small, and circular, about three lines in diameter, appearing to originate in spots of ecchymosis or in the follicular glands, which were patulous. All the other cases were under treatment for bowel complaint when attacked.

The ulcers were small and circular, confined to the lower end of the gut in one man, and to both ends in one woman. In one man there were three ulcers in the caput coli, livid based, transverse, three inches long by three lines broad, with slightly thickened edges, and a gray slough adherent to one; and in another there were in the cæcum and ascending colon several gray-based, thick-edged, tubercular-like ulcers, some circular, some oval transversely, and in the transverse colon were girdle ulcers encircling three-quarters of the gut. Lower down the ulcers were circular, small, a line in diameter, and healing. No infarcted glands were found, and there was no injection or thickening of the coats generally.

Submucous ecchymoses were found in both children.

*Submucous
Ecchymosis.*

In one they consisted of about a hundred spots, each a line or so in diameter, and scattered over the lower part of the gut, from the transverse colon downwards, and in the other they were seen as small black dots about a quarter of a line in diameter, and all through the gut at about one hundred to the square inch.

[A series of cases illustrating this paper will be found at page 505, under heading of "Clinical and Pathological Records."]

THE TREATMENT OF SYPHILITIC CONDYLOMATA.

DR. A. G. PARSONS, of Durham, N. C., writes that he has tried the following ointment in many cases of syphilitic growths on the scrotum, and around the anus, and has never met with a failure:—*R.* Morph. sulph., gr. 2; pulv. camphor, gr. 20. Bismuthi subnitrat.—Hydrarg. chlor. mitis, āā ʒjss.; cosmolin, ʒj. *Signa.*—Wash with soap and water, and then rub the ointment in thoroughly twice a day. In a few days, Dr. Parsons says, the warts will be found to have entirely disappeared.—*The N. Y. Med. Record*, Nov. 13, 1886.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

TRANSACTIONS OF MEDICAL SOCIETIES.

1. *Transactions of the College of Physicians of Philadelphia.* Third Series. Vol. VIII. Philadelphia: Blakiston, Son & Co. 1886. 8vo. Pp. 520.
2. *Transactions of the Alumni Association of the Woman's Hospital in the State of New York.* First Meeting, January 20, 1886. Reprinted from the New York Medical Journal, for private distribution. Vol. I. New York: D. Appleton & Co. 1886. 12mo. Pp. 88.
3. *Bolletino della Reale Accademia di Genova.* Anno Secondo. Num. 1 & 3. Genova. 1886. 8vo.
4. *The South African Medical Journal.* Vol. II. Nos. 7-16.

1. IN our issue for July, 1885, we noticed at considerable length the seventh volume (third series) of the *Transactions of the College of Physicians of Philadelphia*, and we welcome with pleasure the eighth; little inferior in interest and value to its predecessor, and nowise inferior in such merits as the printer, paper-maker, and bookbinder can bestow. In these latter respects, indeed, our American brethren set us an example worthy of imitation. The volume contains, besides the usual routine lists, &c., a memoir of Dr. Atlee, a biographical notice of Dr. George Hamilton, the address of the President (Dr. Da Costa) at the close of the session, and thirty-four original papers read at the monthly meetings, from February, 1885, to June, 1886. Discussions following papers are very fully given; and there is a satisfactory index.

Dr. Agnew, in his memoir, does justice—and no more than justice—to Dr. Atlee, whose name is as well known in Europe as in America. He died on October 1st, 1885, in his eighty-sixth year. In January, 1822, he operated for fistula in ano; in September, 1885, he performed tracheotomy; the interval between the operations being nearly sixty-four years. “Six times in his eighty-third

year, and three times in his eighty-fourth year, he made the operation of ovariectomy," an operation which, almost forgotten, he revived in 1843. Of the President's address we shall only notice his mention of the growth of the College library, which contained but 250 volumes in 1863, and more than 32,000 in 1886, "most of them in excellent condition, and some of them very rare." In 1884 5,829 volumes were added to the library.

Professor Da Costa contributes two papers on the therapeutics of cocaine: one, general, on the use of the hydrochlorate—especially its hypodermic use (p. 39); the other, on its application to the treatment of "rose cold and hay fever" (p. 197). He states, as the result of his experiments, that the drug, employed subcutaneously, was useless in attacks of intestinal pain, and "in obstinate neuralgia, especially sciatica." It was not hypnotic, so used. "As an anæsthetic, its local action is the one which will give it its greatest value." Hypodermically, however, it may be useful in cases of collapse or of heart-failure, and as a cardiac stimulant in adynamic fevers. In the treatment of those irritable conditions of the nasal and other mucous membranes, popularly called "rose cold" and "hay fever," the local application of a four per cent. solution was found to give immense relief. It may be applied as spray, or by injection of from five to eight drops into each nostril, while the head is thrown backwards. Dr. Da Costa does not claim more for his suggested remedy than that it gives relief and comfort. It is not a cure for the complaint.

Dr. W. H. Webb, in a valuable paper *On the Contagiousness of Tuberculosis* (p. 71), begins with the history of the question from Hippocrates to Koch. He maintains that there is no tuberculosis without the tubercle-bacillus; and that "it is impossible to induce true tuberculosis in any case where proper precautions have been taken to remove from the irritant used all living germs." The disease may be communicated by inoculation, and to infants by the bacillus or its spores contained in the mothers' milk; in the latter case, as in the former, being acquired, not transmitted. Hereditary transmission, except of a predisposition, does not occur. He cites the experience of a New York insurance company which carefully excludes phthisical risks, refusing any "application in which there is the least evidence of a predisposition to the disease, no matter what the age of the applicant may be," as well as any in which there is a phthisical history, however remote. In spite of special vigilance 17.61 per cent. of deaths have been due to consump-

tion; "while deaths recorded under other headings, but properly belonging to this, would swell the number to 20 per cent." The death-rate from consumption in the adult male population of New York City was, a few years ago, 30.17 per cent., not very much higher than when possibility of hereditary transmission was, as far as possible, eliminated. "It is my belief," concludes Dr. Webb, "that phthisis is never transmitted from parent to child; it is simply a predisposition that is inherited." The dependence of phthisis upon a bacillus, and its consequent transmissibility, are now recognised officially by both the Prussian and the Austrian War Offices.

Dr. Meigs criticises at some length a paper in the last volume, by Dr. Leeds, on human milk (*V. Journal*, Vol. LXXX., p. 47). The point in dispute is the amount of casein in the milk of the human female, as compared with cows'; a point of considerable importance in connection with the artificial feeding of infants. Dr. Meigs, as the result of his analyses, gives the former proportion as "only about one per cent." He describes his own process, and criticises that preferred by Dr. Leeds, which (Gerber-Ritthausen's) he pronounces "open to many sources of error." In the subsequent discussion Dr. Leeds stands to his guns, and fires this parting shot: "So far as I know [Dr. Meigs] is the only one who has advocated his view as to the small percentage of casein which he supposes to be present in woman's milk" (p. 156). Dr. Wood, in a paper *On the Basal Pathology of Chorea*, concludes that "we may have chorea with various lesions and without lesions." It is due to "an altered condition of the ganglionic cells throughout the nerve centres," the result of embolism or of organic disease. The gross lesions sometimes found are only the causes which produce the ganglionic changes. Dr. Leffmann advocates the use of "pure alcohol and alcoholic mixtures of known composition in preference to ordinary fermented liquids" for medicinal purposes. He suggests that whenever the "physiological effect of ethyl-alcohol is desired, it should be given by prescription, in the form of rectified spirit of known strength."

It is not, perhaps, generally known that American physicians have far greater experience of the pathological effects of solar heat than our Indian medical officers or other intertropical practitioners. We doubt if any member of the latter classes could record *fifty* cases of sunstroke and heat-exhaustion admitted into a single hospital in a single month. Dr. Horwitz, the resident physician

of the Pennsylvania Hospital, contributes *Observations* on fifty such cases, admitted between the middle of July and the middle of August, 1885. Of these, 24 were cases of sunstroke, 26 of solar-exhaustion; 20 of the former occurring between the 16th and 26th July. The largest number of admissions was made—nine—on the 22nd July, on which date the thermometer rose to $93^{\circ}5$ F. in the shade, having risen to 100° on the two previous days. The temperature of one patient (who recovered) rose to 112° ; and, in one case of heat-exhaustion, fell to $94^{\circ}4$. The mortality in the cases of heat-exhaustion is not stated. Of the 24 cases of sunstroke 9 died—3 within ten minutes of admission, 4 within six hours, 2 after forty-eight hours. The treatment consisted mainly in reducing temperature by means of ice, antipyrin being subsequently employed (per rectum) to keep down the temperature so reduced. Musk, in ten-grain doses, was useful in controlling convulsions. Ether, hypodermically exhibited, was a valuable stimulant; “administered by inhalation it controlled the convulsions, acted as a heart stimulant, and improved respiration in a marked degree.” One patient, who died two days after from meningitis, was bled to about twelve ounces from the arm; four, who all recovered, were cupped to about eight ounces on the nape or behind the ears. Mr. G. E. Waring, of Newport, R. I., gives a detailed account of the method of disposal of sewage by irrigation which he carried out at the State Asylum for the Insane at Norristown. His paper, which will well repay perusal, is a discourse, abundantly illustrated by examples, on the text—“We have in the soil a universally available agent for the safe, inoffensive, and complete destruction of everything in the way of organic waste that we may deliver to it in a proper manner.” In the paper following, Dr. Mays discusses the nutritive value of beef extracts. There is no doubt that medical opinion has completely “turned its back upon itself” on this question. Our fathers regarded beef-tea as quintessential nutriment; in our eyes beef-tea “as a food ranks low,” and to feed a patient on beef-tea alone is to starve him. What will be the belief of our sons? Dr. Mays experimented with the isolated frog’s heart on six different beef extracts, and came to the conclusion that (1) they are absorbed and assimilated; that (2) they are capable of inducing muscular contraction; and (3) that “they are nutrients in the full implication of the term.” He has not yet determined to which of the constituents the nutritive properties of beef extracts is due; but he is satisfied that the

inorganic elements do not contribute to nutrition. He founds upon his experiments a practical suggestion which deserves notice. If these preparations are assimilated by the frog's heart without previous digestion, may they not be introduced hypodermically in cases where the stomach is intolerant of food? Dr. Mays treated several patients in this way with good effect.

The most elaborate paper in the volume, occupying, with illustrations and a very complete bibliography, nearly 70 pages, is one by Dr. Charles W. Dulles on *The Mechanism of Indirect Fractures of the Skull*. Our surgical readers will find here a reference to almost everything that has been written on the subject from Hippocrates to Greder; and twenty-seven figures exhibiting lines of fissure, &c. Dr. Mays' paper on *The Analgesic Action of Thein* should be studied by those of our brethren who prescribe caffein or its compounds. A year ago, after experiments on the physiological effects of thein, caffein, and guaranin, he came to the conclusion that caffein chiefly affected motion, the other two alkaloids sensation. In practice he found that, as regards thein, "this theoretical deduction was verified by its power of promptly relieving painful affections." He then found that the alkaloids in the market, labelled thein, caffein, and guaranin, had not been extracted from tea, coffee, and guarana, respectively; but had been "made indiscriminately from Chinese tea, Paraguay tea, kola-nut, coffee, or guarana," and named according to the demands of trade at the time. Most of what is called caffein is prepared from tea. Of course if, as we have all hitherto supposed, thein and caffein are identical in chemical composition and therapeutical action, there is no ground for complaint; but this is precisely what Dr. Mays has seen reason to doubt. It is clear that, if the two substances are absolutely identical, he could not have, as he supposed, obtained different results from them. He repeated his experiments, therefore, with thein from tea and caffein from coffee; and "found reason to believe that the difference between the action of the two in regard to sensation is greater than my earlier experiments indicated." He found, moreover (in confirmation of Leven's experience in 1868), that thein produced convulsions in frogs, caffein did not. Other differences are detailed (p. 368). He concludes that thein "has the power of paralysing sensation, without affecting motion, with a great degree of accuracy, and this with no appreciable injury to the part which is influenced." Commercial thein or caffein, being almost invariably prepared from

tea, gives good clinical results. The drug is to be used hypodermically in doses of one-third or half of a grain.

2. It is more than twenty years since the present writer enjoyed the advantage of attending the Woman's Hospital, New York, and admiring, if he could not hope to imitate, the operative skill of Dr. Thomas Addis Emmet (Emmett then!)—great-grandson of an Emmet not unknown in the history of our country. Mindful of the kindness, as well as the instruction, then bestowed, it is with great pleasure that we notice this first volume of the *Transactions of the Alumni Association of the Woman's Hospital*, N. Y. The same Emmet is the senior alumnus, and two other Emmets appear on the List of the Society, which consists "of ex-members of the house-staff of the hospital, in good standing," meeting twice a year. This little volume contains an introductory address by Dr. James B. Hunter, of New York, and five gynæcological papers, with discussions thereupon. The first paper, by Dr. William H. Baker, of Boston, compares the results of treatment of uterine cancer by high amputation and by total extirpation. Dr. Baker's own results of the high amputation (in 10 cases) are—no death at time of operation and 60 per cent. well four years after. Dr. Pawlik, of Vienna, has collected 136 cases; giving the following per-centages: 7·3 deaths at operation, 10·3 well after four years. On the other hand, total extirpation "is, even under the most favourable conditions, according to most authorities, four times as dangerous as high amputation." The other papers are—*Local v. General Treatment in Gynæcology*, by Dr. Cunier, which confesses "that the extreme picture of gynæcological sins of commission, which [Dr. T. Clifford Allbutt] has drawn in such vigorous and offensive lines, has within it a semblance of truth," and proceeds to consider the question of *The Non-Surgical Treatment of Acute-flexion* (Dr. Ingalls); *The Ætiology of Retroversio-Flexio* (Dr. George T. Harrison); and *The Exaggerated Importance of Minor Pelvic Inflammations* (Dr. Henry C. Coe).

3. The two numbers of the Proceedings of the Royal Academy of Medicine of Genoa under review do not contain anything demanding special notice; except, perhaps, a case of intra-cranial abscess, with fistulous opening, in which the skull was opened in the anterior-inferior angle of the left parietal bone, and 60 grams of pus evacuated, with excellent results.

4. We fear we cannot say much for the *South African Medical Journal*, published at Cathcart, Cape Colony. However, it has reached the sixteenth number of its second volume. It consists of four pages of letterpress, and costs 3d.

RECENT WORKS ON THE EYE.

1. *The Normal and Pathological Histology of the Human Eye and Eyelids.* By C. FRED. POLLOCK, M.D. London: J. & A. Churchill.
2. *Short Sight, Long Sight, and Astigmatism: an Elementary Guide to the Refraction of the Eye.* By GEORGE F. HELM, M.D. London: J. & A. Churchill. 1886.
3. *Refraction of the Eye: its Diagnosis, and the Correction of its Errors.* By A. STANFORD MORTON, M.B., F.R.C.S. Ed. Third Edition. London: H. K. Lewis. 1886.

1. DR. POLLOCK'S admirable epitome of the present state of knowledge regarding the histology of the eye, is a book which cannot fail to obtain a market.

The author, in the first 160 pages, treats of the structure, both pathological and physiological, of all the parts of the eye and lids. The latter two-thirds of the book are occupied with 230 original microscopic drawings by the author, lithographed in black and colours. To each of these figures is appended an explanation, describing the section figured, the magnification and the method of mounting, &c.

They are, he tells us, the result of several years' continuous work, and were taken, without modification of any kind, from preparations selected as typical and instructive. They are most faithful representations in every respect.

In some points the author's statements do not agree with those of the most recent writers on the subject. With regard to the existence of radiating muscular fibres in the iris, he says:—"Immediately in front of the uvea there is a continuous delicate sheet of nearly straight and almost parallel *radiating fibres*, which are composed of involuntary or unstriped muscular fibre-cells with their usual elongated nuclei" (p. 51). He, however, goes on to say that "the elements of this layer have been variously described as constituting a dilator pupillæ muscle, as connective-tissue spindle-cells, and as a *membrana limitans* or basement membrane"—thus

noticing, though disagreeing with, the statements of Fuchs and other recent investigators.

When speaking of xerosis of the conjunctiva (page 20) we find no mention of micro-organisms as associated with the affection; nor, indeed, are these much maligned realities treated with more than scant consideration in any part of the work. On the whole, however, the book is free from errors, and the omissions can be easily supplied in the next edition.

2. Dr. Helm's work is a vicious little book of 100 pages, and we do not recommend anybody to read it, unless, indeed, for the purpose of seeing how it is possible to make the largest number of misstatements in the shortest number of pages. In this respect it is phenomenal. The absolute ignorance of the author regarding the simplest truths of optics is probably the reason why he has not omitted any preliminary remarks on this subject.

The opening sentence of the book, Chapter I., headed "Light," is as follows:—"Rays of light proceeding from an object which is situated at a distance of six metres or more from the observer are considered as proceeding from that object in parallel lines, and therefore they fall upon the eye of the observer as parallel rays of light." Can any description be more amazing and bewildering to a student who has been always taught that in every other connection rays of light *diverge* in all directions from luminous objects. What wonder if they regard ophthalmic work as a thing too difficult for them, veiled in impenetrable mystery, unheeding of the laws of physics.

The most entertaining part of the book is Chapter VII. on "Acuteness of Vision." He asks (page 54) "What is meant by a statement that the object to be seen by the normal eye *must subtend an angle of five minutes?*" He goes on: "Before answering this question we must understand what the visual angle means. It is well known that the retina receives on its surface an impression of an inverted image of any object which is focussed on it—*i.e., the axial rays from an object cross and are refracted by the surface of the cornea, the front surface of the lens, and the front surface of the vitreous, so that they cross one another at the point N., which is called the nodal point, and then form the inverted image on the retina.*"

It would seem from this account that a double crossing of the *axial* rays takes place—one before they passed through the cornea,

and one after—*i.e.*, at the nodal point. He cannot mean this, because the figure to illustrate it is correctly drawn, and shows no double crossing, and no refraction of the axial rays. Is he aware that the axial rays are the only rays that are *not* refracted in passing through the dioptric media of the eye, or does he attach a meaning to the term different from that usually adopted?

It would be useless and tiresome to further criticise this, one of the very worst books we ever read on the subject. There is no excuse for its publication, as there are dozens of similar productions, but none worse.

3. It is refreshing to turn from the maze of misstatements just noticed to Mr. Morton's admirable and unpretending little book, which we have had occasion to notice before.

In this, the third, edition the author informs us that the whole of the subject-matter has been thoroughly revised and partly re-written; and specimens of test types have been appended.

We have little to add by way of criticism to what we said concerning the first and second editions. The book, though small (only 67 pages), contains all the practical information required for general students' hospital-work, and it is written in plain, succinct, and intelligible English.

The "tabular view (page 50) of the state of refraction, as indicated by the various methods," will be found very useful for reference by students working practically at refraction.

Medical and Surgical Report of the Tyrone County Infirmary for the Year 1885. Omagh. 1886. Pp. 9.

ON more than one occasion we have been able to point to the work done in the Tyrone County Infirmary as a practical, a convincing argument in favour of the maintenance of the County Infirmaries of Ireland.

The present Report by the Surgeon, Mr. E. Thompson, M.B., F.R.C.S.I., contains a record of good work, fully up to the average.

During the year 1885, 444 patients were admitted to the hospital, 1,051 were treated externally, 31 trusses were issued, and 99 patients were "refused" admission. The cases discharged from hospital were classed as follows:—Medical, 154; surgical, 233; diseases and injuries of the skin, 18; diseases of the eye, ear, &c., 33. The surgical operations were numerous and most severe, including 4 amputations of the thigh, 5 amputations of the breast, 2 amputations

of the foot, 1 amputation of the penis, 4 excisions of the knee-joint, 1 castration, 1 ovariectomy, 3 enucleations of the eyeball, 15 removals of tumours, 1 tracheotomy, 1 laryngotomy, 2 hare-lips, besides many others of lesser importance. Fourteen simple, 4 severe compound fractures, and 3 dislocations were under treatment during the year.

Thirteen patients died, a larger mortality than usual, representing a death-rate of 3·3 per cent. The total expenditure was £1,327 8s. 3d. The average cost of each patient, including cost of maintenance and establishment charges, was £3 0s. 7½d., and the cost of each occupied bed £35 8s. The average number of patients in the hospital was 37·5, and their average stay in the Infirmary 29·5 days.

A Short Manual of Chemistry. By A DUPRÉ, Ph.D., F.R.S., and H. WILSON HAKE, Ph.D., F.C.S. Vol. I. Inorganic Chemistry. London: Charles Griffin & Co. 1886. 8vo. Pp. 365.

A "Short Manual of Inorganic Chemistry" has been added to the numerous works on this science.

It contains 365 pages, of which 82 are devoted to the teaching of the principles of Chemistry. In these pages will be found a neat graphic method of explaining the difference between an element and a compound adapted from the usual method, for genealogical tables; also, a graphic formula for showing the difference generally between an elementary and a compound molecule; a table of Specific Heats of some substances under varying conditions, a concise account of the Laws of Chemical Physics, and a Historical Chart of the Elements, with the dates of their discovery and the names of their discoverers.

The remainder of the work is devoted to the enumeration of the Non-Metals, the Metals and their Compounds, also their preparation and tests. The section on the Non-Metals concludes with a paragraph on their general characters, as does also that upon the Metals, which are arranged into five groups, according to their action upon water and the action of their oxides when heated. The Salts are also noticed with regard to their general character. In the Appendix are given a table of Thermal Values, of Chemical Reaction of Specific Gravities, and a well-executed table of Spectra.

As regards the merits of the work, the authors fairly criticise themselves in their preface by the question—Why should another handbook on this subject be added to the many which exist in the language? and they answer it fairly by saying that it suits their

special experience as teachers. They do not claim originality in the plan of the work, which differs but little from that of many other teachers—*i.e.*, that the principles of Chemistry should be taught before the details of the science are learned.

We do not deny to Professors Dupré and Hake the right of placing their work in the hands of their pupils, nor of teaching Chemistry in the way that their experience tells them is the best; and as teachers we are ready to admit the difficulty of teaching Chemistry, except under certain conditions, which are principally that the students should have from the commencement of their study the opportunity of seeing chemical substances, and carrying out chemical experiments in a well-regulated laboratory. We hold that it is impossible for an ordinary student to grasp the principles of the science until the mind is well stored with a knowledge of chemical facts founded upon personal experience, and we consider that the learning of the principles of Chemistry will not be properly effected until these conditions are fulfilled. In conclusion, we are of opinion that the authors have published an excellent work, whose merits, if it had not been preceded by other books similar in style, would, no doubt, have been recognised by an extensive demand.

Congrès Periodique International des Sciences Médicales. Huitième Session—Copenhagen, 1884. Compte-Rendu publié au nom du Bureau par C. LANGE, Secrétaire-Général. Copenhagen : Librairie Gyldendal (F. Hegel et Fils). 1886. 8vo. En Quatre Tomes.

LATE indeed in their arrival, but none the less welcome are these volumes from the Danish capital, for in them are preserved for all time the records of one of the most successful Medical Congresses which has ever yet been held.

The selected language of the “Compte-Rendu” is French, but the papers and discussions are given in English, French, or German, according to the wish of the authors. The volumes are beautifully printed on excellent paper, with, however, only paper covers, and contain some exquisite illustrations. They are dedicated by the indefatigable Secretary-General, Dr. C. Lange, to the memory of Professor P. L. Panum, President of the Congress; of Dr. V. Holmer, President of the Executive Committee of the Surgical Section; and of Dr. N. Salomon, President of the Section of Military Medicine.

PART III.

HALF-YEARLY REPORTS.

REPORT ON NERVOUS AND MENTAL DISEASE.^a

By RINGROSE ATKINS, M.A., M.D.; Resident Medical Superintendent, District Lunatic Asylum, Waterford.

I. INSANITY IN GENERAL.

Dr. Kraepelin's Classification of Insanity.—The following lengthy abstract of Dr. Kraepelin's "*Compendium der Psychiatrie*," dealing specially with the author's classification of mental maladies, is taken from the current number of the *Journal of Mental Science*:—"The author gives seven great groups of mental disorder—namely—(1) Depression; (2) Semi-Consciousness or Stupor; (3) Excitement; (4) Periodical Psychoses; (5) Primary Verrücktheit; (6) Paralytic Dementia, or progressive paralysis of the insane; (7) Weakmindedness. Under the first heading we have simple melancholia, and melancholia with delusions; the second division, rather an unusual grouping, comprises morbid states of sleep, as hypnotism, somnambulism, and what the Germans call *Schlaftrunkenheit*, or that condition in which on awaking from deep sleep a person remains for a longer or shorter time in an intermediate stage of mental confusion and imperfect perception of the outer world. Intoxication often favours this occurrence, and in some instances the individual is epileptic. The next sub-class is that of genuinely epileptic and hysterical states of semi-consciousness, the most accentuated form being that of epileptic stupor. Then comes the sub-class of stupor and ecstasy, with the synonym, melancholia attonita or *cum stupore*. Under this head falls catalepsy (Starrsucht). The last, or fourth sub-division, is acute dementia, and involves the most complete depression of psychical function. Its pathological basis is exhaustion of the brain, and may be caused

^a The author of this Report, desirous that no contribution to the subject of Nervous and Mental Disease should remain unnoticed, will be glad to receive any publications which treat of it. If sent to the correspondents of the Journal they will be forwarded.

by loss of blood, the puerperal condition, severe bodily illness, especially typhus fever, insufficient nutrition, intellectual or emotional strain. Unstable inheritance and youth are powerful predisposing causes. This condition, while resembling stupor, differs from it in exhibiting a minimal amount of mental activity. The author points out that the distinguishing characteristic of this, as contrasted with *melancholia cum stupore*, lies in this—that in the former the whole psychical activity has sunk to a minimum, while in the latter it is only its expression which is inhibited. The perception of the outer world is almost suspended, the course of thought arrested; there is complete apathy, and no motive for action remains. As with the patient in melancholia with stupor, the patient does not react to external influences, never speaks, while his expression is dull and vacant, and he has no backbone; he offers no opposition to any manipulation; there are no spontaneous movements; he requires to be dressed like a child; he has to be led to the closet, washed, and put to bed; he is dirty if not attended to, and allows the saliva to trickle down from his mouth. The temperature is subnormal; the pupils are dilated, and react slowly, while sensibility and reflex action are strikingly diminished. Such a patient may display excitement of a confused character, in which he speaks some coherent words, not understood by himself, or dances about the room; but all is done without any deep feeling, which, the author points out, distinguishes the excitement of acute dementia from the impulsive violence of patients labouring under *melancholia cum stupore*. The differential diagnosis of acute dementia from secondary states of profound apathetic dementia depends entirely upon the previous history and the course of the affection; it is rendered certain by the occurrence of remissions. From stupor it is principally distinguished by the complete absence of indications of mental tension, such as the facial expression, passive resistance, and explosive violence (p. 232).

“Nothing could more clearly show the difficulty of distinguishing so-called acute dementia and melancholy with stupor than part of the description of the ecstatic form of the latter. Here the perception of the outer world is quite veiled by the intense and overpowering fancies which oppress the whole consciousness, but their character is not painful or depressing, but very agreeable; the patient sees the Almighty and the angels, and feels himself in heaven. During this condition the patient is regardless of his surroundings; while with wide-open eyes and fanatical expression,

looking heavenwards, he remains motionless on his knees without making any response to questions. The muscles are not strongly contracted. The patient allows himself sometimes to be led quite automatically; in other cases he answers every interruption by an angry attempt to withdraw himself from the external interference. Such conditions are generally only of short duration, rarely longer than a few days, but frequently return, especially in the night. They are analogous to those mental states which arise from poison, especially opium, prolonged fasting, as well as after excessive bleeding. No peculiar treatment is required on account of its rapid disappearance. More or less marked symptoms of stupor and ecstasy are met with in many forms of delirium from severe bodily illness. Especially are those forms of delirium very unfavourable in their prognosis which arise from great exhaustion of the brain. Still deeper is the condition in the so-called coma vigil, a condition of profound stupefaction from which the patient can only be aroused by powerful external stimuli. The course of thought is at a standstill, the consciousness is filled only with obscure indefinite mental images, under which imperfect common feelings may play the most prominent part. It cannot be said with absolute certainty whether there is a condition of life preserved in the patient in whom a transformation of brain function into mental processes no longer takes place—in other words, whether the consciousness is really fully lost. We have anyhow to do, in the symptoms of progressive paralysis and coma, &c., with those morbid conditions in which the signs of psychical activity are wanting, and therefore most probably consciousness no more exists.

“Under the third head—conditions of mental excitement—we have, first, active melancholia. Doubtless, this may occur in the course of other mental affections, as, for instance, in primary *Verrücktheit*; but there, as a rule, the anguish or fear does not form the basis of the disorder, but is the consequence of delusions or hallucinations. Secondly, mania, the foundation of which is the abnormal vividness of the thoughts or imagination, and the transition of the central excitement into acts. The mildest form of mania has been designated by Mendel ‘hypomania,’ in his Monograph published in 1881, in which there is always the loss of an internal cohesion of ideas and the inability to pursue a logical train of thought. The next sub-class is that of acute delirious mania, in which there is marked disorder of the perceptions, which

bears no relation to the strength of the morbid affections. There is a certain dream-like confusion and loss of connection of ideas, along with illusions and hallucinations, and a defect in the power of judgment which brings this form of disorder into near relationship with the semi-conscious states of a former group, only the presence of intense motor excitement is generally a marked feature. The first stage of febrile delirium is marked by a certain restlessness, mental excitement, susceptibility to powerful sensory impressions, and disturbance of sleep in consequence of vivid and often painful dreams; in the second stage the mind is more disordered, perception is perverted by illusions, and more rarely by hallucinations, and ideas assume great intensity. Expansive ideas increase until the height of the third degree of the disorder is reached, and the confused chain of ideas (*Ideenjagd*), and often furious movements occur. Exhaustion, involving symptoms of palsy, passing into stupor and uncertainty of movements, constitutes the fourth stage of febrile insanity. The temperature is high, and the condition of the brain is considered by the author to be hyperæmic. Alcoholic delirium, or *delirium tremens*, is next described, but need not be noticed further. We pass on to the fourth grand group—Periodical Psychoses—which embrace periodical mania, periodical melancholia, and circular insanity. Under ‘periodical mania’ Dr. Kraepelin includes dipsomania, defined as the uncontrollable propensity to indulge in alcoholic drinks. In periodical melancholia, which is by far less frequent than the maniacal form, there are more frequently delusions, hallucinations, and suicidal propensity, along with intense mental anguish followed by slighter degrees of melancholy in the periodical return.

“Circular insanity is characterised by periodical oscillations between mania and melancholia, which follow one another, but are separated from one another by a comparatively lucid interval. Generally a low and high state form together an attack alternating with remissions. More rarely is the reverse sequence the course of symptoms, as also the interpellation of an interval between each phase of the paroxysm. As a rule, a melancholy stage precedes the attack—usually simple mental depression.

“The fifth division is that of primary ‘*Verrücktheit*,’ which may be regarded as the pet division of German nosologists, and therefore deserves to be clearly defined, more especially as it is constantly misinterpreted. The author defines it as a chronic deeply-seated loss of mental personality which makes itself known primarily in a

morbid apprehension of the operation of external and internal influence. Chronicity marks this disorder as a rule, because it has its root not in transient disorder, nor in a process which will pass over, but in an abnormal condition of the entire psycho-physical organism. The clearness of the consciousness is undisturbed. The power of thinking is fully preserved, but the material of thought is falsified through the manifold subjective elements, and is manufactured into a morbid, distorted, deranged (*Verrückt*) mode of viewing things in the patient's environment and in his personality. It is therefore usual to regard as the characteristic symptom of 'Verrücktheit,' a fixed delusion firmly and persistently held by the patient, or still better a whole system of such delusions. The distortion of the perception and consciousness as such is a specially frequent symptom; as the 'Verrücktheit' becomes marked, so is the circumstance that this distortion is not corrected, although the consciousness is clear and intellectual work is not disturbed through the affection itself, overpowering as the morbid feeling is. The disorder has consequently here seized upon the highest mental functions, for the *fixed delusion* is no isolated pathological symptom like a sensory hallucination—a motiveless disturbance—but is the infallible sign of a persistent fundamental incapacity (*Unzulänglichkeit*) of the whole intellectual being.

"This foundation of the weakness, upon which alone this form of alienation can attain to perfection in its production, is either *primary* and congenital (*originäre Verrücktheit*), or it is gradually acquired in the course of individual development, or it is a stage from another psychical disorder (*secondary Verrücktheit*). The old German psychiatry knew only this last form, and sought to place all fixed delusions (*Wahnsysteme*) as survivals of a previous mania or melancholia. Now we have learnt to recognise *primary Verrücktheit* as particularly frequent and complex (*formenreiche*), which makes its appearance before the secondary form through a succession of clinical peculiarities.

"In *primary 'Verrücktheit'* the form of the disorder is governed by the insane current of ideas which morbidly distort the understanding of the relation between the individual and his surroundings. The healthy perception is in the highest degree perverted through hallucinations of all kinds as well as through the subjective interpretation of normal impressions; the disposition and conduct are guided into abnormal paths through the influence of delusions. The origin of the delusions may be effected principally in two

distinct ways, through the operation of hallucinations or in the form of so-called primordial mental derangement. There are doubtful cases in which hallucinations, mainly of hearing, represent the proximate and exclusive cause of the delusion; especially do delusions of persecution originate in this way. The patient hears occasional remarks, threats, insulting words, calls for help from his relations, believes himself despised in consequence, hated, everywhere observed, his beloved in danger, and now begins to interpret under the persistent influence of his hallucination other perceptions also in the sense of these morbid imaginations. An unprejudiced consideration of the clinical course allows us to recognise in it, with clearness, that certain peculiarities in the majority of cases precede a commencement of the phantasies—that is to say, peculiarities in the apprehension of the surroundings which indicate a more deeply-seated disorder. As a rule, the external world appears to the patient in quite a different light before the formation of his hallucinations; so that without the perceptions being exactly false, he sees things and persons with other than healthy eyes. Unessential secondary circumstances strike him and acquire a different meaning, whilst often what is nearest and most obvious remains unobserved. The character of the hallucinations stands, therefore, as a rule, in a certain relation to the patient's former thought, while it strengthens his fears, encourages his hopes, and especially varies the *thema* of the delusion, in a variety of ways, without the patient himself being conscious of this connection, which no doubt is frequently only quite general and indefinite. The hallucinations are, in other words, not always the cause of the mental derangement in the patients, but may be only a symptom of his general morbid condition. The psychosis would not be put aside in any degree through the removal of the hallucinations; it would remain essentially unaltered.

“ Certain cases may be observed in which the disappearance of the false perceptions, or their possible correction after some years' duration, indicates a certain recovery of the patient. Here the phantasies possess mostly a great uniformity; the construction of the delusion always remains upon a lower plain of development, and does not involve a complete derangement of the whole mental personality, so that it is doubtful whether one can regard this morbid condition as, properly speaking, ‘*Verrücktheit*.’ In the case of those who labour under the true disorder, a correction of the delusion would be impossible by means of the most patent

argument, because his capacity for objective criticism is wanting; he appears to be impelled in the highest degree to hypotheses of the most absurd character. But where a false isolated idea depends upon hallucinations which, not on account of the intellectual incapacity of the patient, but on account of the objective difficulties of control, are not recognised as such, we have to do obviously with a totally different kind of disorder.

“If we may not recognise hallucinations as special causes of delusions to any great extent, still it is unquestionable that they possess great importance in the characteristic form and the further development of the delusion. When the once-awakened general distrust of the patient is led through a false perception into definite paths, and is immovably fixed there, the slumbering, exalted idea, which has an obscure form in the consciousness, suddenly assumes a clear ineffaceable form. The powerful irresistible power which the hallucination exercises over the patient does not depend so much upon its vividness to the senses as upon its profound, although to the patient unconscious, connection with the peculiar circle of ideas, and of the internal correspondence with his secret fears and wishes. No sane man would consider the words of a passer-by, ‘This is the Emperor,’ as referring to himself, or suppose that he was on that account truly the Emperor, while such an hallucinatory perception produces upon the person labouring under ‘*Verrücktheit*’ the most profound and overpowering influence, and has the direct effect of making him believe not only that the words were truly spoken, but that they also contain the real truth.

“The origin of the delusion of those labouring under ‘*Verrücktheit*’ is generally much deeper than the hallucinations to which the patients are accustomed frequently enough to return, when they have not become conscious of the complete derangement of their whole mental being, which first must be accomplished before the delusions can altogether develop their influence. As a fact, we meet with many persons labouring under ‘*Verrücktheit*’ with whom particular hallucinations have never been present. One cannot be easily misled in the determination of this question through the apperception of hallucinations and illusions, which not unfrequently are described by patients with similar expressions. By means of a fresh examination one may almost always distinguish them from actual sensory disorders. To these belong the inner voices, the thought-speaking, the telegraphing, and many

visions, &c., which frequently are expressed by the patients with newly-invented fantastic names. They always stand in the most direct relation to the course of thought—sometimes even under the influence of the patient's will—and are by him referred, under the complete separation from normal perception, to mystical distant influences, secret magnetic relations, divine inspiration, and so forth. Clearly such apperception indicates already a widely extended loss of critical power and confusion of the patient in his deranged (*Verrückt*) perception of the world.

“These apperceptive delusions, to which one can scarcely give any other name, form, to a certain extent, a transition from hallucinations to primordial derangement. We find in them, as a general rule, the conception related to external, if of no longer simple sensory, origin, whilst the primordial derangement has throughout the character of the conceptions, which suddenly rise to consciousness and acquire an overwhelming power therein. Hence it happens to the patient labouring under ‘*Verrücktheit*’ that in perceiving a few chestnuts the idea strikes him at once that they are the symbols of lordship over the five divisions of the world; to another, a female patient, who contemplates the likeness of the Russian Emperor, it suddenly becomes manifest that he is her father. Indeed, these conceptions have, in the patient's circle of ideas, acquired even at the moment of their origin the character of such unquestionable truth that they stick to him in this form for probably his whole future life, and mould all further experience in accordance therewith, instead of being itself corrected at every step thereby.”

A Contribution to the Study of Diseases of the Circulatory System in the Insane.—The following is an abstract of the *Med. Psychol. Assoc.* prize essay, by Dr. T. Duncan Greenlees, published in the *Journ. of Ment. Science*, Oct., 1885. After a brief historical introduction the author proceeds to treat his subject under two main heads—(1) statistical and (2) pathological. His statistical division is subdivided into—1. The condition of the heart as found among the living insane. Among 672 patients examined he found heart disease in 86 cases, or almost 137 of the total; and in 294 patients, representing nearly 44 per cent., there was functional disorder present. Among the latter are embraced such conditions as weak and almost inaudible heart sounds, irregular rhythm, re-duplication or accentuation of one or other of the sounds, loud and tumultuous action of the heart, associated with a false rapid or abnormally

slow, irregular or intermitting, weak or compressible, pulse. The author observed that heart disease occurs with greater frequency among recent and acute cases of insanity than among the more chronic and stationary types. In the cases presenting the clinical symptoms of cardiac disease or arterial atheroma on admission, Dr. Greenlees found—(1) mitral systolic murmurs, (2) presystolic murmurs, (3) double aortic murmurs, (4) hypertrophy, (5) accentuation or reduplication, (6) atheroma or thickening of the arteries. The second subdivision is “The Condition of the General Circulation of the Insane.” Here attention is called to the frequent impairment of the circulation, the slow and feeble pulse, and the cold (even livid and swollen) extremities—especially in recent cases of acute melancholia and old-standing cases of dementia, or other chronic forms of insanity. In a population of 530 insane the author found one or other of the above conditions in 59 cases. An inquiry into (3) heart disease as a primary cause of death shows that of 222 autopsies made during a period of five years, in 30 cases (1·74) the heart was diseased to such an extent as to constitute of itself the primary cause of death, and that in 153 cases (68·77) the heart and vessels were not healthy, being sufficiently diseased to constitute a secondary or more remote factor in the fatal issue. As regards the relative frequency of heart disease in various asylums, the percentage was found to be as follows:—English, 5·90 per cent.; Scotch, 9·70; Irish, 6·56; while the percentage at Garlands, covering a period of twenty years, was 6·09, making an average percentage of 7·05. The author’s investigations comprise the conclusions of Dr. Burman—that heart disease, as a cause of death among the insane, occurs with greater frequency in those localities where the proportion of the insane to the sane is greatest. The fourth subdivision deals with the pathological changes observed in the heart and blood-vessels of those dying insane, including those changes not necessarily contributing to the fatal issue; while the fifth has to do with the percentage of deaths from heart disease or arterial change amongst the general public. Concerning these the author concludes that—

1. Heart disease occurs with greater frequency amongst the insane than amongst the sane.

2. Increase in frequency is in part regulated by the frequency of heart disease among the sane population in the vicinity of the asylum where the observations are made.

3. Heart disease is more frequent among the insane in the counties where the ratio of the insane to the sane is greatest.

4. The distribution of heart disease among the sane is regulated by the geographical position, dietetic, and other influences acting as predisposing causes. Similar conditions appear to exercise an influence over the frequency of heart disease amongst the insane.

5. The numerical difference between heart disease among the sane and the insane, if considered over all, is not great, being 8.72 per cent. of the total deaths in the former, and 9.36 per cent. in the latter.

6. Heart disease is present in 2.94 per cent. of the living insane, and is the cause of death in 13.51 per cent. Both on admission and at death the age of the greatest number who had heart disease was between sixty and seventy.

7. The clinical symptoms of mitral regurgitation in the living insane, and mitral disease with left-sided hypertrophy *post-mortem*, are the most common affections.

8. The hearts of the insane are heavier than those of the sane, and this condition is more especially noted in general paralysis where the heart is very frequently hypertrophied.

9. In many cases of insanity the general circulation is sluggish, and the extremities are cold, livid, or swollen. This condition occurs most frequently in cases of chronic or advanced types of insanity.

10. The arteries are frequently affected in the insane, but with respect to the age, atheromatous degeneration of the arterial coats does not appear to occur earlier than among the sane. In general paralysis, however, thickening of the arterial tunics, or even atheromatous degeneration of the cerebral arteries, occurs quite indifferently of the age of the patient, and appears to be influenced more by the duration of the disease than by the age.

11. Among the insane heart disease appears to exercise an important influence on the mind, changing the temperament and altering the character of the patient, and this change may become so prominent that the psychical phenomena exhibited may be actually those of insanity.

12. Not only does heart disease alter the type and delusions of insanity, but also some cases occur amongst the insane in whom the only ascertained predisposing cause of the mental aberrations is the diseased condition of the heart, or general derangement of the circulatory system, and that in these cases the cardiac lesion is no doubt the predisposing cause of the insanity.

Dr. Greenlees gives the result of his microscopical examination

of 16 brains, representing cases of dementia, senile decay, epilepsy, general paralysis, paralytic insanity, *folie circulaire*, and congenital imbecility. The changes observed are minutely described and illustrated by two coloured plates.

The conclusions arrived at by Dr. Greenlees confirm the previous observations of Griesinger, Luys, Burman, Dickson, Savage, Solfanelli, Dr. Astros, Sioli, Morel, Kraepelin, Forbes-Winslow, Milner Fothergill, Spitzka, Clevenger, and Kiernan. The last-named concludes—1. That cardiac disease produces psychical symptoms, depression, and hallucinations, as well as delusions. 2. That cardiac disease modifies co-existing insanity. 3. That insanity may produce cardiac symptoms.

PHOTOGRAPHING THE LARYNX.

THE idea of applying the art of photography to the larynx is by no means new; indeed, it originated with Czermak, the father of laryngology. Since his day several persons have attempted it, but with signal lack of success. In 1882, however, Dr. Thomas R. French, aided by Mr. George B. Brainerd, both of Brooklyn, produced some excellent photographs of the larynx, which were shown by Dr. French before the American Laryngological Association; and, two years later, at the International Medical Congress at Copenhagen, Dr. French presented photographs, together with a special instantaneous camera and other apparatus devised by him, which for originality, simplicity, and efficiency, left nothing to be desired. All the difficulties formerly encountered had been met and overcome. Any larynx that could be demonstrated with the laryngeal mirror at all could be photographed—the process was instantaneous, it was carried out by means of sunlight, it was not difficult, and only the image in the laryngeal mirror was taken. Both physiological and pathological conditions could be represented, and the photographs could be themselves enlarged, thrown on a screen and magnified to any desired extent for class-room demonstration, or transferred to a block for wood engraving, or reproduced by other processes. It argues well for the future of the invention that the gentleman through whose genius it was devised is also possessed of unusual quickness and sagacity as an observer and, perhaps most important of all, of a thorough knowledge of the principles of music and of a remarkably fine and accurate perception of tone. In his hands much has already been accomplished, and it is safe to say that the investigations so brilliantly begun will result in the settlement of the many important questions with regard to voice production which have for years been the occasion of such heated controversy.—*New York Medical Journal*, November 6, 1886.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ACADEMY OF MEDICINE IN IRELAND.

President—ROBERT M'DONNELL, M.D., F.R.S.

General Secretary—W. THOMSON, M.D.

SURGICAL SECTION.

President—SIR WM. STOKES, M.D., President of the Royal College of Surgeons, Ireland.

Sectional Secretary—MR. W. THORNLEY STOKER.

Opening Meeting, Friday, Nov. 12th, 1886.

The PRESIDENT in the Chair.

The Inaugural Address.

SIR WM. STOKES delivered the Inaugural Address. [It will be found at page 448.]

Ovariectomy.

MR. F. V. MACDOWELL read notes of a case of ovariectomy performed by him in Baltinglass Infirmary. The operation was performed by making an incision from umbilicus to pubes. The cyst was found so dense that the trocar would not enter. An incision was made into the tumour, and the canula, being connected with India-rubber tubing, was well embedded in cyst and secured in the usual way with spring hooks. Owing to the numerous adhesions it was found necessary to enlarge the abdominal opening by three inches around and above umbilicus. Twelve pints of amber-coloured fluid were drawn off. The pedicle was clamped, divided, treated with actual cautery, and, by a modification of the extra-peritoneal method, was secured in the lower part of the abdominal opening and retained there by harelip pins passing through it as well as the abdominal wall, the pins being retained *in situ* by carbolised catgut. Wound and pedicle were maintained perfectly aseptic by means of regular applications of iodoform. Operation performed March 31st, 1886. Patient moved about ward within three weeks from that date, and in the sixth week walked one mile to operator's residence on her way home.

SIR WM. STOKES congratulated Mr. MacDowell on his success, and hoped that many of his colleagues in the country would in like manner bring before the Academy the results of their practice.

DR. ATTHILL attributed to Mr. MacDowell great credit for his courage in attempting the operation of ovariectomy under the unfavourable circumstances that existed, and also for his skill in achieving a successful result. Two points arose for observation. First, his own experience was against raising the temperature of the operating room so high as 75°. Although that temperature might be theoretically an advantage to the patient, it was extremely disagreeable to the operator, and he himself had had greater success operating in cold weather than in the heat of summer. Indeed, for some years past he had not paid particular attention to the temperature of the room beyond insuring that it was warm. The second point was as to the disposal of the pedicle. Mr. MacDowell had adopted a modification of the extra-peritoneal ligature, having secured the pedicle with catgut ligatures outside the abdomen. That was the method with which he had himself commenced, as introduced by Spencer Wells, who had, however, discontinued its use. The mortality had fallen twenty per cent. from the adoption of the intra-peritoneal method of treating the stump; so that the use of iodoform, which was an advantage in the extra-peritoneal method, was hardly requisite.

MR. F. V. MACDOWELL replied:—With regard to Dr. Atthill's observations, he said that neither patient, his assistants, nor himself, had suffered any inconvenience from the high temperature. The patient never evinced any inflammatory trouble. The ligatures were absorbed, and he thought iodoform should get a fair trial in such cases. There was no putrefactive decay in the stump, and the wound continued aseptic until cicatrised.

Nephro-lithotomy.

MR. KENDAL FRANKS read a paper on nephro-lithotomy, and reported the case of a man, aged twenty-eight, from whose left kidney he had excised a large stone on the 6th May last. The case made a satisfactory recovery, and was the first case of the kind on which the operation of nephro-lithotomy had been performed in Ireland. The history of the case dated back six years, when the patient, after a severe febrile attack, had hæmaturia, which lasted for three months. The symptoms he presented, from which the diagnosis was made, were pain over the lower part of the left side of the thorax, and over the region of the left kidney, shooting downwards to the crest of the ileum and to the left groin. There was no testicular pain; tenderness over the last rib and below it on the left side on pressure; large quantities of pus in the urine, which, though fœtid, was always acid. Added to these symptoms the history of the case, the absence of bladder symptoms, and the absence of pyriform cells in the urine; assisted

in the diagnosis. The kidney was reached by the lumbar incision; the stone was felt completely filling the pelvis, and was excised through an incision in the substance of the kidney. The calculus was friable, composed of phosphate of calcium, carbonate of calcium and ammonium magnesium phosphate, and weighed 171·3 grains when washed and dried. It was removed piecemeal, being too large to extract entire. The lumbar wound healed by first intention, the site of the drainage-tube continuing to discharge urine for four weeks. The patient had returned to work several months ago, was free from pain and in good health. He still passed some pus with the urine.

SIR WM. STOKES considered it gratifying that Mr. Franks' diagnosis proved to be accurate, and that the operation was attended with such a satisfactory result.

MR. BARTON, having assisted in the operation, was impressed with the fact that it marked a new era in the progress of urinary surgery. Where a satisfactory diagnosis was established it was the surgeon's duty to open the loin and expose the kidney, and then follow the lines of procedure indicated by Mr. Franks. The diagnosis was the first point of practical interest. He emphasised Mr. Franks' observation that the pain located in the loin was most reliable. The condition of the urine, too, left no doubt of calculus being present, surrounded by inflammatory exudation and pus.

MR. THOMSON said the difficulty that must always present itself in such cases was that of diagnosis, and not the removal of the stone, once its presence was made clear. He had seen two operations on the kidney, and he had another case under observation. In one there was a large distinct tumour on the left side. All the symptoms referable to stone in the kidney were present, but the organ was too large for removal through the lumbar incision. The tumour was removed and the stone found, but there was also a stone in the other kidney, and the result was fatal. In a proportion of those cases there was a great tendency to infection of the second kidney, and when one was removed it was not always certain that all the mischief had departed. Indeed the patient might be worse off than before. Another point of importance was in reference to the incision. Where the kidney was not specially enlarged so as to present a tumour in the abdominal cavity, the lumbar incision was attended with least risk. In one case of stone which he saw, the kidney was so large that there could be no question of the futility of attempting to remove it through the lumbar incision. The only proper course would be that adopted by Knowsley Thornton of removing the tumour by abdominal section and draining the abdominal cavity through the loin.

MR. FRANKS, in reply, said of course Mr. Thomson referred to cases of nephrectomy, and not of nephro-lithotomy.

TRANSACTIONS OF THE ULSTER MEDICAL SOCIETY.

SESSION 1885-86.

President—JOHN FAGAN, F.R.C.S.I.

Hon. Secretary—JAMES A. LINDSAY, M.D., R.U.I.

Neuralgia of the Face and Scalp: its Ætiology and Treatment. By
CHARLES KEVIN, M.D.

NEURALGIA of the face and scalp is such an every-day subject that I think it requires some apology on my part for bringing it before the Society, but I rather think that by directing our attention to the more common ills that “flesh is heir to,” our time might often be better employed than discussing the states of the system, which are more in the nature of medical or surgical curiosities.

Neuralgia, in its various forms, for most of us, must demand our very careful attention. The face and scalp are more commonly the seat of neuralgia, owing, no doubt, to the exposed position of those parts and to their variabilities of temperature consequent on this exposure, and owing to the extreme mobility of the blood current through those parts, as seen in blushing and in fits of anger, when the superficial parts may be alternately subject to rapid alteration in the blood pressures.

Neuralgia is hereditary—the female sex suffering most from it. Children are not very liable to it, except when the permanent teeth are coming irregularly, or when syphilis is present. It is more common at puberty than at any other time. Anæmia is a frequent cause, as also uterine troubles, such as menorrhagia and prolonged lactation, especially when menstrual flow is present; also mental exertion, overwork, anxiety, gastric disturbance, &c.

Exposure to the rays of the sun—probably by the action of heat on the brain, or the effect of the bright rays on the eyes—produces a very painful attack of hemicrania in some.

Malaria has been often accused of originating neuralgia of the first division of the fifth nerve, but it seems to me that this was somewhat *post hoc* reasoning; it was traced to malarial origine because quinine often cured it. Malaria is being rapidly banished from our shores, but authorities will admit that “tic” is as common as ever.

Other causes of the complaint are cold north winds, especially when accompanied by rain; decayed teeth tumours, metallic poisons in the system, &c.; but debility in an anæmic patient is by far the commonest cause. This debility causes the nerves to cry out for pure blood with tongues more eloquent than that of Cicero.

The principal nerves involved in this malady are the great occipital, the three divisions of the fifth—the first division being the most liable to be attacked, the third the least liable; and in *migraine* the pneumogastric is involved, probably in a secondary sense.

From what I have seen of *migraine* I would be led to conclude that its origin was cerebral, that the ophthalmic division of the fifth was the nerve affected, that when the great occipital suffers it is more likely of rheumatic origin, and is not likely to produce sick headache, except the ophthalmic is also involved. The female sex are more liable to suffer from *migraine*, particularly at or immediately before or after the menstrual periods. Myopia is a cause often overlooked of an attack of tic.

The *treatment* of this affection must depend on the particular form which we may meet with, and the causes at work producing it. If of rheumatic or syphilitic origin, these states of the system must demand our attention and our treatment. If overwork, lactation, or exposure to the sun's rays—rest, weaning the child, or remaining in doors must be enjoined.

I have had no practical experience of the surgical treatment—such as nerve stretching or nerve division. Many and various are the drugs recommended for the treatment or cure of this complaint. How often we fail to give permanent relief, and even if we can bestow temporary relief it is often at a fearful cost, as evidenced by the shattered nervous system of those who have used narcotics or who have contracted an insatiable desire for stimulants or sedatives. It must be admitted that a stimulant will often at once relieve, and may procure for a patient a temporary respite from suffering—as in the case of a young man of my acquaintance, who, after partaking of a glass of wine while suffering from a sharp attack of neuralgia, declared he would never again be a teetotaller!

In occipital neuralgia, when sickness is absent, butyl chloral hydrate is the drug I have most faith in. It must be given in at least 5 to 8-grain doses in glycerine every fourth hour—in smaller doses very little benefit will be gained. This to be followed by tonic treatment—iron and quinine, or iron and bromide of potassium.

As to treatment for neuralgia of the fifth, when the ophthalmic division is the seat of pain, I find nothing so successful as chloride of ammonium in 30-grain doses every fourth hour till relieved, which is generally at the third or fourth dose. In fact, I would quite agree with a statement that I met with somewhere, that we do not require any other specific for neuralgia when we have the chloride of ammonium. It is an old remedy, pushed aside in this country to a great extent by more modern drugs. It holds its place in Germany and the United States as the most reliable remedy for neuralgia. If, however, this should prove unsuccessful, I would prescribe the butyl chloral hydrate, and when pain has subsided quinine in 1 or 2 grain doses dissolved in hydrobromic acid, 10 to 15 min. doses.

In one case of most intractable neuralgia of the fifth, accompanied by internal strabismus, in a young girl aged eighteen, whom I have at present under my care, quinine, chloride of ammonium, opium, and butyl chloral, had been employed by myself, and I do not know how many things by another medical man. The patient got well rapidly with the quinine and hydrobromic acid treatment, except the strabismus, which returns when sewing or reading.

For the second and third divisions of the fifth the chloride of ammonium is almost a specific, combined with tincture of aconite in 5 min. doses, tincture of gelsemium in 15 min. doses, sweetened with syr. aurantii or spt. chloroform. Of course if an inflamed tooth is the irritant every treatment adopted except extraction will be but a partial success.

Tr. gelsemii in 10 min. doses every twenty minutes till three doses are taken, and kept up in 10 min. doses three times daily for a few days, I have tried and found to succeed, but I never use it except when the third division of the fifth is involved. Although morphin is said to be antagonistic, I have succeeded best when combining it with small doses of liquor morph. hydrochlor. in 5 min. doses.

Liniment of aconite sometimes relieves, but frequently does not. However, it is but right to give it a trial. If the patient has faith in it, it often succeeds, and so will acupuncture, Corrigan's button, a charm, or a "faith-cure." Change of air often banishes an attack.

Migraine is often benefited by a mixture composed of bromide of potassium, gr. 20; spt. am., min. xxx.; 3ss. spt. chloroform in water every third hour; keeping the patient quiet in a dark room, and bathing the temples with tr. opii or eau-de-Cologne. Though it is likely of central origin, I have seen some patients relieved at once by a very hot linseed poultice applied over the stomach. Coffee is recommended by authorities, but many cannot take it. A strong cup of tea during the attack is usually more easily taken.

Quinine and hydrobromic acid will be found useful. Blaud's pills are often of great benefit when anæmia is present. I have seen good results during the intervals follow the use of malt extract by ladies who suffer from neuralgic headache. I believe that far more than half the bilious headaches are of neuralgic origin, and are perpetuated by the state of semi-starvation which the victims impose on themselves. With those people it is quite proof enough of all their trouble being hepatic if they vomit bile, forgetting that in the most antibilious sea-sickness will produce this effect as well as any other attack of vomiting. The hypodermic injection of morphin is by far the best remedy to relieve pain in severe attacks, only to be used while awaiting the effects of other remedies or to procure sleep. The puncture even without the morphin succeeds sometimes.

PATHOLOGICAL RECORDS.

Post Mortem Appearances in Cholera. By ALEXANDER PORTER, M.D., F.R.C.S., M.R.I.A.; Brigade Surgeon, I.M.S.; Fellow of the Madras University, and Professor of Medical Jurisprudence, Madras Medical College.

CASE I.—Mooneen, a shepherd of the Yeddar caste, about forty years old, was picked up by the police and brought to hospital on 16th March, 1877, with all the symptoms of cholera well marked except vomiting, which was absent; had been attacked during the night, but was too ill to give a full account of himself. He died the next morning. Autopsy two hours afterwards. Height, 5 feet 1 inch; weight, 73 lbs.; body emaciated, with œdema of feet.

Skull.—Scalp and meninges bloody; pia mater injected; some serum in arachnoid cavity.

Brain, $37\frac{1}{2}$ ozs., firm, injected.

Chest.—Right pleura healthy. *Lung*, $8\frac{1}{2}$ ozs.; much collapsed; black tarry blood flows on severing large vessels of root; substance spongy, venous, livid, dry on section. *Left pleura* and lung like right; weight, $6\frac{1}{2}$ ozs.

Pericardium healthy. *Heart*, $5\frac{7}{8}$ ozs., full of black blood, with some small yellow clots on right side.

Abdomen.—Peritoneum reddish pink, glistening.

Small intestine contains ten lumbrici and a little “rice-water” fluid, reddish pink, injected deepest in middle third; Peyer’s patches markedly paler, and look depressed from prominence of the surrounding folds; solitary glands full and prominent; lower end of ileum seems very thin.

Large intestine contains a large quantity of reddish fluid, like secondary cholera stools; coats deeply red, congested deepest in cæcum; mouths of solitary gland showing as minute white circles, most markedly in transverse colon, but sufficiently conspicuous downwards to the rectum, where the injection is less marked.

Stomach small, contracted; lining pale.

Liver, $31\frac{1}{4}$ ozs.; cuts soft; black blood in veins; normal in structure. *Gall bladder* nearly empty.

Spleen, $2\frac{1}{2}$ ozs.; flaccid, tough, deficient in pulp.

Right kidney, 2 ozs.; capsule strips easily; substance healthy.

Left kidney, $2\frac{1}{8}$ ozs., like right.

Pancreas, $1\frac{1}{2}$ ozs.

Mesenteric glands normal; some little fat in mesentery.

In this case of destitution probably famine diarrhoea preceded the cholera.

CASE II.—Vedamuthoy, a coolie of the Pully caste, about twenty years old, was brought by the police, on the evening of the 28th March, 1877, in a state of collapse, having been attacked by cholera about noon, and he died the next morning. Autopsy ten hours after death. Height, 5 feet $3\frac{1}{2}$ inches; weight, 97 lbs.; body plump and well formed; rigor mortis present.

Skull.—Scalp and meninges bloody; pia mater red, injected, and veins full.

Brain, $42\frac{1}{4}$ ozs.; softish, and rather congested.

Chest.—Right pleura has old points of adhesion. *Lung*, $11\frac{1}{8}$ ozs., injected, red, but dry on section. *Left pleura*—Some points of old adhesion laterally. *Lung*, $10\frac{1}{4}$ ozs.; injection hardly so deep red as in right.

Pericardium healthy. *Heart*, 7 oz., flabby, little fat on surface, tar-like blood in right side.

Abdomen.—Peritoneum pearly; deep injection of small gut.

Small intestine contains gas and a little pink pult; peritoneal surface red; mucous coat deep rose-coloured; solitary glands prominent and white.

Large intestine contains some “rice-water” fluid; mucous coat rosy; solitary glands prominent and white.

Stomach large, contains some conjee-water; mucous coat smooth, pale, buff-coloured.

Liver, 41 ozs.; veins full of tarry blood; structure normal. *Gall bladder* half full of bile.

Spleen, $12\frac{1}{4}$ ozs.; deeply pigmented, not easily friable, and no pulp exudes on pressure.

Right kidney, 3 ozs.; capsule strips easily; very bloody on section from engorgement of veins.

Left kidney, $3\frac{1}{4}$ ozs.; like right, but blood almost more tarry.

Pancreas, $2\frac{1}{2}$ oz., healthy.

Some fat in mesentery; glands large.

CASE III.—Chellan, a Pariah coolie, about thirty-five years old, from Athoor, a month in Madras, ill twelve hours with cholera, admitted on 5th April in a state of collapse, all the symptoms of cholera being well marked. He rallied under treatment, but the purging continued, the stools becoming slimy with blood intermixed, and he died on 22nd. Autopsy five hours after death. Height, 5 feet 2 inches; weight, 71 lbs.; body emaciated; no œdema; rigor mortis present.

Skull.—Much blood flows on removing calvarium; pia mater injected, and veins distended with dark blood; bloody serum in arachnoid cavity.

Brain, 41 oz.; firm, puncta bleed freely, serum in ventricle.

Chest.—Right pleura healthy. *Lung*, 7 ozs.; fully collapsed; apneumatoses of posterior border, else pale and pigmented. *Left pleura* healthy. *Lung*, 6 ozs.; quite healthy.

Pericardium healthy. *Heart* small, $4\frac{1}{2}$ ozs.; fluid blood in right side.

Abdomen.—Peritoneum healthy; streaky red injection of gut and mesentery.

Small intestines contain some yellow fluid and gas; mucous coat pale slate, injected red all through, deeper in parts; lowest two feet of ileum lined by a rough pseudo-membrane.

Large intestines gas-distended; mucous coat injected red all through, except in descending colon, and lined by a dirty green, rough pseudo-membrane, which is thickest and most mammillated in lower end.

Stomach small, empty; mucous coat rugose, quite red.

Liver, 40 ozs.; large veins full of dark blood, but substance rather pale; structure normal. *Gall bladder* full of bile.

Spleen, $2\frac{3}{4}$ oz.; firm, pigmented; not friable, and no pulp exudes on pressure.

Right kidney, $3\frac{1}{2}$ ozs.; capsule strips easily; small cysts on surface; substance deeply red injected; structure normal.

Left kidney, $3\frac{1}{2}$ ozs.; like right.

Pancreas, $2\frac{1}{2}$ ozs., healthy.

No fat in mesentery; glands normal.

CASE IV.—Chandrayan, a ryot of the Pulley caste, aged about twenty years, an idiot, from Seladoo, a fortnight in Madras, four days on famine relief, admitted with diarrhœa on 27th April, 1877. He was in good flesh and did not appear ill; his stools were not seen, as he passed them into his bed. On morning of 7th May symptoms of cholera set in, and he died in the afternoon of the 8th. Autopsy six hours afterwards. Height, 5 feet $3\frac{1}{2}$ inches; weight, 56 lbs.; legs thin; some fat on abdomen; rigor mortis present.

Skull.—Scalp and meninges bloody; some serum in arachnoid cavity and beneath; pia mater over anterior lobe injected bright red; veins full.

Brain, $42\frac{1}{2}$ ozs.; firm hyperæmia.

Chest.—Right pleura healthy. *Lung*, fully collapsed, $5\frac{1}{2}$ ozs.; rusty-tinged venous tarry blood from root. *Left lung*, $4\frac{7}{8}$ ozs., like right, but livid tinge more marked, and two spots of sub-pleural ecchymosis near fissure.

Pericardium pearly; contains $\frac{1}{2}$ oz. of straw-coloured serum. *Heart*, small, $3\frac{5}{8}$ ozs.; full of tarry blood; fat on surface.

Abdomen.—Peritoneum pearly; intestines brightish red.

Small intestine contains rice-water stools and seven lumbrici; sub-peritoneal veins engorged; mucous membrane brightish red; a spot or two of sub-mucous ecchymosis in jejunum; marked prominence of the solitary glands most seen in ileum.

Large intestine contains rice-water stools; in caput coli are three livid-based transverse ulcers, three inches long by three lines broad, with slightly thickened edges and gray slough adherent to one; mucous membrane of ascending and transverse colon dull red, and solitary glands prominent; of descending colon, paler, but more swollen, and thrown into numerous folds; of sigmoid flexure livid with superficial red mottling; no thickening; and in rectum the whole surface is dark livid red, without ulceration of glands visible.

Stomach large, distended with rice-water fluid; contains one lumbricus; mucous membrane in rugæ pale, one venous radicle injected.

Liver, 22 ozs.; small, $5\frac{1}{2} \times 2 \times 4\frac{1}{2} \times 3$ inches; right lobe rounded; capsule pale, cuts soft; section smooth, anæmic; ducts contain bile, slightly fatty under microscope. *Gall bladder* contains a little green bile.

Spleen, $3\frac{1}{4}$ ozs., small, $4 \times 3 \times 1$ inch; firm, brown, not friable.

Kidneys, $2\frac{1}{4}$ ozs. each; capsule strips easily; injected red.

Pancreas, an ounce and a half in weight, normal.

Mesenteric glands slightly swollen; fat in mesentery.

CASE V.—Persevandroo, Pariah coolie, male, aged thirty-five years, from Pervandrum, two months in Madras, six days on famine relief, admitted 3rd May with dysentery of three days' duration. Is of spare frame, in normal flesh; has frequent mucous stools passed with griping and tenesmus; belly soft, not painful on pressure; pulse 72, small; R. 18; tongue moist, with buff fur. Ipecac. treatment had stopped the dysentery by the 8th, when there came cough and feverishness; pulse 96, respirations 24. He was attacked by cholera during the night, and he died the next afternoon. Autopsy two hours after death. Height, 5 feet 2 inches; weight, 80 lbs; body in fair flesh; rigor mortis present.

Skull.—Scalp and meninges venous injected; pia mater pale venous; veins full.

Brain, 42 ozs, firm, dark blood from pia mater readily.

Chest.—Right lung, $6\frac{5}{8}$ ozs.; old points of adhesion at apex; fully collapsed; slightly venous tinged; tarry blood from root. *Left lung*, 7 ozs.; no adhesions, else quite like right.

Pericardium healthy. *Heart*, $6\frac{1}{8}$ ozs.; fat on surface right side, and coronary veins distended with tarry blood. Peritoneum normal; intestines injected red.

Small intestines contain two quarts rice-water stools, four lumbrici, and some gas; sub-peritoneal veins full; mucous coat deep red paling towards valve; solitary glands prominent; fewer than usual.

Large intestine very large and much sacculated; contains three quarts of rice-water stools and four lumbrici; mucous coat of caput coli dark livid, with a filmy patch of gray lymph adherent; of ascending colon pale, livid, swollen, thrown into folds; thence downwards pale pink, swollen, and in folds; lower end deep livid brown, thickened, and studded with small gray ulcers.

Stomach large, full of rice-water fluid; mucous coat pale, smooth.

Liver, 31 ozs., congested, dark venous and pigmented, $7 \times 2 \times 5 \times 2\frac{1}{2}$ inches; left lobe then atrophied; under microscope nuclei obscured by pigment granules. *Gall bladder* contains 3i. thick dark bile.

Spleen, 3 ozs., flat, $4\frac{1}{4} \times 2\frac{1}{2} \times 1$ inch; firm, not friable; veins full of tarry blood.

Right kidney, $2\frac{1}{8}$ ozs.; deeply red, injected all through.

Left, $2\frac{1}{2}$ ozs.; capsule strips easily; quite like right.

Pancreas weighs two ounces three drachms.

Mesenteric glands normal; mesentery injected red, contains some fat.

The *post mortem* appearances were markedly choleraic; the remains of the dysentery was still seen in the rectum, and perhaps caput-coli.

CASE VI.—Burliah, a palki-bearer, aged about seventy years, a resident of Madras since 1860, admitted 30th April, 1877, with “dysentery” of two days’ duration, a miserably thin little old man; no œdema, skin hanging about him; belly hard, painful on pressure; pulse 84, weak; respiration 22; has had a cough for past year, spits a little phlegm, never blood; has rough breathing over right apex, and pneumonic crepitus over left base, and a crackling sound with the heart’s rhythm. 10th May.—Pulse, 108, weak; respirations, 26; temperature, 99.2° F.; stools thin and yellow; two passed last night. 12th.—Attacked by cholera during night; died at noon. Autopsy five hours after death. Height, 5 feet $3\frac{1}{2}$ inches; weight, 60 lbs.; body a skeleton; no œdema; rigor mortis present.

Skull.—Scalp and meninges pale; a little serum in and beneath arachnoid; pia mater pale rose, streaked red; larger veins full.

Brain, $38\frac{1}{2}$ ozs., firm; section pale buff, punctated; a little pale serum in the lateral ventricles.

Chest.—Right pleura firm; old adhesions all over, broken down with great difficulty. *Lung*, $18\frac{3}{4}$ ozs., somewhat torn; posterior part quite fibrous; section hard and elastic, like white fibrous tissue among pigmented nearly obliterated air cells; some cavities at apex with pigmented mucous contents or empty; no appearance of tubercle anywhere. *Left pleura*.—Old adhesions less firm; posteriorly at root a gray granular firm deposit on reddened pleura. *Lung*, 17 ozs.; section like right; cavities five or six, but in apex there are spots of softened tubercle, and the base is congested and studded with miliary tubercles.

Pericardium pearly; contains 2 drachms of pale serum. *Heart*—Some fat on surface; is flabby, and nearly empty of blood; weighs $6\frac{1}{4}$ ozs.

Abdomen.—Peritoneum normal; intestines dull white.

Small intestine contains a quart of “rice-water” stools, and two lumbrici; mucous membrane, thin, pale to livid, tinged in ileum, becoming more decided towards valve from injection of venous radicles; solitary glands prominent only near valve, appearing as clear specks.

Large intestine contains two quarts of rice-water stools; no injection or thickening of coats generally. In cæcum and ascending colon there are several gray-based, thick-edged tubercular ulcers, some circular, some oval transversely, and in transverse colon are three-quarter girdle tubercular ulcers; lower down the ulcers are circular, small, a line in diameter, with edges not thickened and healing; no infarcted glands found.

Stomach small, empty; mucous coat pink.

Liver, $26\frac{7}{8}$ ozs., small, flaccid; two wrinkles half an inch deep run across right lobe, $6 \times 2\frac{1}{2} \times 4\frac{1}{2} \times 3$ inches; cuts soft; acini pale-edged, distinct, not fatty. *Gall bladder* contains 2 drachms of thin green bile.

Spleen weighs 1 oz., is firm, flesh-coloured, not friable.

Kidneys, $2\frac{3}{8}$ ozs. each; capsule adherent; section uniformly flesh-coloured, not fatty.

Pancreas weighs 1 oz. 3 drachms, is healthy.

Mesenteric glands very visible from complete absence of fat in mesentery, but not enlarged.

In this case the tubercular deposit was, no doubt, subsequent to the fibroid pneumonia. With so much tubercular ulceration of the colon it seems strange that none of the solitary glands of the small or large intestine even, or the mesenteric glands, were found infarcted with tubercle.

CASE VII.—Carion, a Pariah coolie man, about thirty years old, from Conjeveram, three days in Madras, said to have been ill eleven hours with pain in the belly when brought in dead on 8th June. Autopsy four hours after death. Height, 5 feet 7 inches; weight, 123 lbs.; body plump; rigor mortis well marked.

Skull.—Scalp and meninges bloody; serum in and beneath arachnoid; veins full.

Brain, 45 ozs., firm, rather hyperæmic.

Chest.—Right pleura pearly; half a pint of dark amber serum in cavity.

Lung, $10\frac{5}{8}$ ozs., not collapsed, dull pink with a livid tinge; veins full of tarry blood. *Left pleura* and lung quite like right; weight, $9\frac{5}{8}$ ozs.

Pericardium pearly; contains a little amber serum. *Heart*, $7\frac{1}{2}$ ozs., fat on surface; a little tarry blood in both sides.

Abdomen.—Peritoneum pearly, moistened with amber serum; intestines reddish pink.

Small intestine contains twelve lumbrici, and a pint of reddish fluid,

like secondary cholera stools. Mucous coat brightish red, injected, and looking as if washed in blood, with three spots of sub-mucous ecchymosis half an inch in diameter in jejunum; and deep livid injection in lengths, with prominence of some of the solitary glands, in ileum.

Large intestine also contains reddish fluid; mucous coat has same appearance as in jejunum, is a trifle paler, perhaps, and with numerous rugæ from being swollen; very little mucus is detached by fingers in examination.

Stomach large, full of dark-coloured fluid containing much black pepper and a little arrack; mucous coat in rugæ pale, tinged, livid.

Liver, 46 ozs., congested, $7 \times 2\frac{1}{2} \times 5\frac{3}{4} \times 4$ inches; veins full of tarry blood; substance healthy. *Gall bladder* full of thin green bile.

Spleen, $8\frac{7}{8}$ ozs., dark red, $6 \times 3\frac{1}{2} \times 1\frac{1}{2}$ inches; lots of red-brown pulp exudes from cut surface on pressure.

Kidneys, $3\frac{1}{2}$ ozs. each; capsule strips easily; section uniform; livid injection as in cholera; not fatty.

Pancreas, $3\frac{1}{2}$ ozs., seems healthy.

Mesenteric glands normal, smothered in fat.

The appearances are more like those of cholera in the second stage than any other disease. He might easily have been ill a couple of days before being picked up by the police. He had not been on famine relief.

CASE VIII.—Kunnevathee, a coolie woman of the Pariah caste, about thirty-five years old, admitted 1st May with well-marked symptoms of cholera, which set in during the previous night. Is from Chingleput; has been ten days in Madras Famine Relief Dépôt. She remained in a state of collapse, voiceless, pulseless, with much thirst, rice-water vomiting and purging, suppression of urine, cramps, injection of conjunctiva, &c., till death on morning of 3rd May. Autopsy three hours afterwards. Body not emaciated; but little fat. Height, 4 feet $11\frac{1}{2}$ inches; weight, 69 lbs.; rigor mortis well marked; arms bent; eyes injected.

Skull.—Venous engorgement to smallest capillaries.

Brain, 36 ozs., firm, venous congested.

Chest.—Lungs free, shrunken, dull pink, pigmented in front; tarry blood from vessels on separation. *Right Lung*, $6\frac{1}{4}$ ozs., spongy; section dull pink, pigmented. *Left Lung*, $5\frac{1}{2}$ ozs.; some ecchymosed spots under pleura in fissure, else like right.

Pericardium pearly, empty. *Heart* distended, with tarry blood and soft clots; some fat on surface; weight, $6\frac{1}{2}$ ozs.

Peritoneum normal, except venous injection to minutest capillaries of parietal, visceral, and mesenteric vessels, making the intestines look claret-coloured.

Small intestine contains one lumbricus and some whitish and green-tinged mucus adherent to lining membrane, which is uniformly livid,

deeper in parts, and valvulæ conniventes prominent; a gray film adherent in ileum, removable in parts; solitary and Peyer's glands not prominent; sub-peritoneal veins injected to minutest capillaries.

Large intestine has red-tinged mucus adherent; caput coli like ileum; lividity deeper in parts and film adherent; lividity uniform and deeper in ascending and transverse colon, and adherent film thicker, looking like gray slough; less in descending colon and in sigmoid flexure, which is pale livid, with only spots of effusion; no abrasion, but look of effusion having been cast off.

Stomach large; contains one lumbricus and "rice-water" fluid; lining in pale rugæ.

Liver, $42\frac{7}{8}$ ozs.; veins full of tarry fluid; substance pale liver-coloured, as in young people.

Spleen hypertrophied, and pigmented on convexity, not easily friable; weight, $12\frac{7}{8}$ ozs.

Right kidney, $2\frac{7}{8}$ ozs.; *Left*, 3 ozs.; deeply venous, injected.

Pancreas, $2\frac{1}{4}$ ozs.; healthy.

Mesenteric glands normal; mesentery venous injected; some fat present.

The symptoms in this case were markedly those of cholera, while the intestinal lesions were those of diphtheritic dysentery.

CASE IX.—Bodyama, a weaver's wife, aged about twenty-five years, was brought to hospital, and died on 4th May. Said to have been ill twenty-fours with cholera, and to have died on the way to hospital. Autopsy two hours after death. Height, 4 feet $11\frac{1}{2}$ inches; weight, 101 lbs.; body plump, and a beautiful figure; rigor mortis well marked.

Skull.—Vessels of scalp and meninges full of dark blood; pia mater pinkish.

Brain, $38\frac{7}{8}$ ozs.; rosy, punctated, firm.

Right pleura healthy. *Lung*, $8\frac{1}{4}$ ozs., not collapsed; lower lobe violet; section dry; tarry blood in veins of root.

Left pleura healthy. *Lung*, 8 ozs., livid spots of ecchymosis in fissure; section like lower lobe of right.

Pericardium pearly, empty; veins fully injected. *Heart*, large, fat, 8 ozs.; right side distended with tarry blood.

Peritoneum normal, but vessels of parietes and viscera injected, pink-red; lots of fat in mesentery.

Small intestine contained forty lumbrici in all, including those found in colon and mouth, and "rice-water fluid;" mucous membrane pink-red, with solitary glands showing as white prominences, the size of snipe-shot.

Large intestines contain rice-water fluid and some lumbrici; mucous membrane darker red, but solitary glands less prominent than in ileum.

Stomach small, empty; lining in rugæ pink.

Liver large, flabby; veins full of tarry blood, slightly fatty; weight, 42 ozs. *Gall bladder* full of thickish tarry bile.

Spleen, $4\frac{1}{2}$ ozs.; veins injected; substance healthy.

Right kidney, 3 ozs.; deeply venous injected.

Left kidney, $3\frac{1}{2}$ ozs.; capsule strips easily, quite like right.

Pancreas, $3\frac{1}{2}$ ozs.; mesentery loaded with fat; glands normal.

The lividity and absence of collapse of the lungs is unusual; their weight, however, was small.

CASE X.—Muichee, a coolie woman of the Pariah caste, aged about forty years, from Kodambaukum, four months in Madras on Famine Relief, ill ten days with “dysentery,” admitted 2nd May, 1877. She is emaciated, but has no œdema of ankles; belly soft, tender on pressure; pulse 112, weak; respirations 28; tongue moist, brown-furred; stools mud-coloured, fluid tinged with blood, passed with griping and tenesmus. 6th.—Stools choleraic, suppression of urine; collapse and all symptoms of cholera marked except vomiting. Died on afternoon of 8th. Autopsy two hours after death. Height, 4 feet 7 inches; weight, 51 lbs.; body thin, a little fat in cellular tissue.

Skull.—Scalp and meninges injected, a little serum in arachnoid cavity and beneath it; pia mater veins engorged, streaked red.

Brain, $37\frac{1}{2}$ ozs., firm, hyperæmic.

Chest.—*Right lung* fully collapsed, tarry blood from root, pale with venous tinge, spongy; weight $4\frac{1}{4}$ ozs. *Left lung*, a few old points of adhesion, but fully collapsed and quite like right, $3\frac{7}{8}$ ozs.

Pericardium normal. *Heart* small, 3 ozs.; some fat in surface; right side and coronary vessels full of tarry blood.

Abdomen.—*Peritoneum* normal; veins of mesentery engorged.

Small intestine contains a quart of white mud-tinged fluid and seven lumbrici; jejunum slatey, with a hundred spots of sub-mucous ecchymosis, some an inch in diameter and a few prominent to feel; sub-peritoneal venous radicles injected to smallest capillaries; *ileum* also livid, but less slatey, and a gray film adherent throughout; solitary glands markedly prominent as white spots the size of snipe-shot.

Large intestine contains two lumbrici and some pale fluid; mucous membrane of caput coli dull pink, with one pale, shallow ulcer half an inch in diameter; patches of gray effusion adherent in ascending colon; mucous membrane of transverse and descending colon, paler, venous, tinged, thickened, and thrown into numerous folds, with deep red blotches of lymph effusions into the upper layers of the mucous membrane; a small gray-based superficial ulcer two lines in diameter on one of these, larger red-brown similar patches in sigmoid flexure and rectum, with six or seven similar ulcer on these, the largest half an inch wide.

Stomach small; mucous membrane in rugæ, pale, tinged green; contents a little green pult.

Liver, $20\frac{1}{2}$ ozs. small, $5 \times 3 \times 4\frac{1}{2} \times 2$ inches; smooth, pale; liver-veins full of tarry blood; slightly fatty.

Gall bladder full of dark green bile.

Spleen small, weighs one ounce, $3 \times 2 \times 1$ inch; cut surface brown; is firm, not friable.

Right kidney, $1\frac{3}{8}$ ozs., small; capsule strips easily; cortex pale, with veins full.

Left kidney, 2 ozs.; more vascular; non-albuminoid.

Pancreas weighs only 7 drachms; looks healthy.

Mesenteric glands slightly swollen, with some fat around.

CASE XI.—A woman, about forty-five years old, was brought to hospital in a dying state on the 6th September, 1877, and she died in a few minutes after admission. There was no history, but it looked like a case of cholera. Autopsy one hour after death. Height, 5 feet 1 inch; weight, 75 lbs.; body emaciated; no œdema; rigor mortis present.

Skull.—Scalp and meninges bloody; serum in and beneath arachnoid; veins of pia mater full.

Brain, 40 ozs.; firm, hyperæmic.

Chest.—Right pleura healthy. *Lung*, $7\frac{5}{8}$ ozs.; very fully collapsed; lower lobe pink, airless; upper healthy.

Left pleura and lung like right, $6\frac{3}{8}$ ozs.

Pericardium pearly, moistened with serum. *Heart*, $7\frac{1}{8}$ ozs.; tarry blood on right side; fat on surface.

Abdomen.—Sub-peritoneal veins over gut engorged, else healthy.

Small intestines contain a pint of bloody fluid; mucous coat bright red in ileum, and deep-red like ecchymosis into the mucous membrane, along free border of jejunum; engorged sub-peritoneal veins seen through; glands near valve prominent, but not conspicuously so.

Large intestine contains a pint of rice-water stool; mucous coat deep-red, injection of parts like in jejunum.

Stomach large, full of rice-water fluid; lining pale and smooth.

Liver, 27 ozs., venous, congested, $6 \times 2\frac{3}{4} \times 5\frac{1}{2} \times 2\frac{3}{4}$ inches; section spotted yellow; dark blood from veins; decidedly fatty.

Gall bladder half-full of thin dark green bile.

Spleen. $1\frac{1}{4}$ oz.; white spots on capsule; $3\frac{1}{2} \times 2 \times \frac{3}{4}$ inch; section red, with white trabeculæ, not friable, and no pulp exudes on pressure.

Right kidney, $2\frac{1}{4}$ ozs.; capsule partly adherent; section deeply red, injected, rather fatty.

Left kidney, $2\frac{3}{8}$ ozs., like right.

Pancreas, 2 ozs., healthy.

No fat in mesentery; glands atrophied.

The veins of lungs and liver not so full as usual, nor the solitary glands of ileum so conspicuous, otherwise the appearances are quite those of cholera.

CASE XII.—Mugadoo, a weaver's son, aged about five years, brought in with his mother (No. 356) on May 4th, also suffering from cholera with all the symptoms well marked; never rallied; died on night of 5th. Autopsy seven hours after death; height, 3 feet 1 inch; weight, 30 lbs.; body in fair flesh; no marks; rigor mortis going off.

Skull.—Scalp and meninges injected, latter pink; a little serum in and beneath arachnoid; pia mater streaked red from injected capillaries.

Brain, 42 ozs., rather hyperæmic; no serum in ventricles.

Chest.—Right lung well collapsed; $4\frac{7}{8}$ ozs.; a point of recent adhesion near apex, where frothy fluid flows from section, which is livid; rest reddish and dry on section, with tarry blood from veins. *Left lung* smaller; $4\frac{1}{4}$ ozs.; less venous congestion.

Pericardium healthy. Heart, no fat; right side and coronary vessels distended with tarry blood; $2\frac{3}{8}$ ozs.

Abdomen.—Peritoneum healthy; sub-peritoneal veins of jejunum engorged; fat in mesentery.

Small intestine thin and pale; odd venous radicles injected; marked prominence of solitary glands all through, and numerous punctated ecchymoses a line or less in diameter; near the valve the mucous membrane is pale, thrown into irregular folds feeling prominent and thickened.

Large intestine pale; odd venous radicles distended. In transverse colon downwards there are a hundred spots of ecchymosis, apparently into the solitary glands, each about a line in diameter, with a few thick-edged circular ulcers three lines in diameter, and bases discoloured or pale like the surrounding mucous membrane. The ulcers appear to have originated in the ecchymoses or in the glands, which are patent mouthed. There is no hyperæmic or general thickening of the coats; only the ulcers feel thick-edged.

Stomach small; mucous membrane in rugæ very pale, livid.

Liver, $14\frac{7}{8}$ ozs., flaccid, $5 \times 2 \times 5 \times 2$ inches; cuts soft; uniform pale red; healthy.

Gall bladder full of thickish dark-green bile.

Spleen, $4\frac{5}{8}$ ozs., large, $3 \times 3 \times 2$ inches, firm; veins injected.

Right kidney, $1\frac{1}{4}$ ozs.; capsule strips easily; cortex pale-rose; medulla blood-red.

Left kidney, $1\frac{1}{8}$ ozs.; quite like right.

Pancreas weighs 1 oz.; looks healthy.

Mesenteric glands larger than in adults, with lots of fat around.

The lungs red and intestines rather pale; the ulceration in the transverse colon and sigmoid flexure unusual.

CASE XIII.—Moongay, sister of last case, aged about three years, was also brought to hospital on 4th May in a state of insensibility, said to have been ill with cholera since midnight; pulse 88, good; respiration 40, sighing; vomiting and purging not great; suppression of urine; moans a good deal; never rallied; died on night of 5th. Autopsy seven hours after death; height, 2 feet 10 inches; weight, 19 lbs.; body well nourished; rigor mortis going off.

Skull.—Scalp and meninges bloody; ecchymotic-like injection of pia mater over posterior lobe of brain.

Brain, $35\frac{1}{4}$ ozs., rather soft and hyperæmic.

Chest.—Right pleura healthy; lung, not collapsed, $3\frac{1}{4}$ ozs., pink red in front, livid posteriorly; tarry blood from veins on section, and some frothy fluid on pressure. *Left lung* adherent to parietes over part of convexity by recent lymph effusion; no serum; otherwise like right; weight, $3\frac{3}{4}$ ozs.

Pericardium healthy. Heart, no fat; right side and coronary vessels distended with tarry blood; $1\frac{1}{2}$ ozs.

Abdomen.—Peritoneum healthy; intestines pale tinged, venous.

Small intestines contain a little green pult and three lumbrici; three also were found in the mouth; mucous membrane tinged green; hardly any injection of venous radicles; has a livid tinge *en masse*; Peyer's and solitary glands markedly prominent.

Large intestine empty; mucous membrane dingy, stained greenish; some livid mottling from injection of venous radicles; studded all over with small black dots, about one hundred to the square inch and a fourth of a line in diameter, looking like pigmented mouths of Lieberkühn's follicles, but no central opening visible; no prominence of solitary glands.

Stomach small; mucous membrane in rugæ, dingy white, stained greenish.

Liver, $11\frac{3}{8}$ ozs., plump, $5 \times 1 \times 4 \times 2\frac{1}{2}$ inches; pale liver-coloured; veins full of tarry blood. Gall bladder full of thickish dark bile.

Spleen, 1 oz. in weight; $3 \times 2 \times 1$ inches; firm; dark liver-coloured.

Kidneys, $1\frac{1}{8}$ ozs. each; capsule strips easily; cortex pale, mottled, venous; medulla blood-red, injected.

Pancreas.—Weight 5 drachms; looks healthy.

Mesenteric glands larger even than in last case, with lots of fat surrounding.

The pleurisy, injection of the arachnoid, and absence of this in the gut, with the black punctation, were peculiar.

SANITARY AND METEOROLOGICAL NOTES.

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VITAL STATISTICS

For four Weeks ending Saturday, November 6, 1886.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

TOWNS	Weeks ending				TOWNS	Weeks ending			
	Oct. 16.	Oct. 23.	Oct. 30.	Nov. 6.		Oct. 16.	Oct. 23.	Oct. 30.	Nov. 6.
Armagh -	10·3	36·1	25·8	10·3	Limerick -	14·8	12·1	18·9	18·9
Belfast -	15·0	20·7	17·4	20·9	Lisburn -	0·0	9·7	4·8	4·8
Cork -	18·2	9·7	26·6	19·5	Londonderry	10·7	8·9	14·3	14·3
Drogheda	8·5	25·4	4·2	21·1	Lurgan -	5·1	10·3	25·7	35·9
Dublin -	21·4	19·5	21·4	25·4	Newry -	17·6	24·6	14·0	14·0
Dundalk -	17·5	17·5	17·5	4·4	Sligo -	9·6	38·5	0·0	14·4
Galway -	30·3	20·2	13·4	13·4	Waterford -	16·2	25·5	27·8	11·6
Kilkenny	16·9	21·1	0·0	12·7	Wexford -	21·4	34·2	8·6	21·4

In the week ending Saturday, October 16, the mortality in twenty-eight large English towns, including London (in which the rate was 16·0), was equal to an average annual death-rate of 18·9 per 1,000 persons living. In Glasgow the rate was 23·8; and in Edinburgh it was 15·1.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 17·8 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in ten of the districts to 10·1 in Galway—the 9 deaths from all causes registered in the last-named district comprising 2 from simple continued fever and 1 from diarrhœa. Among the 64 deaths from all causes registered in Belfast are—1 from scarlatina, 1 from typhus, 1 from ill-defined fever, and 7 from diarrhœa; and the 28 deaths in Cork comprise 1 from each of the following diseases—viz., whooping-cough, ill-defined fever, and enteric fever.

In the Dublin Registration District the births registered during the week amounted to 161—76 boys and 85 girls—and the deaths to 152—73 males and 79 females.

The deaths represent an annual rate of mortality of 22·4 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 21·4 per 1,000.

Eighteen deaths from zymotic diseases were registered, being 13 under the number for the preceding week, and 9 below the average for the forty-first week of the last ten years; they comprise 2 from scarlet fever (scarlatina), 1 from whooping-cough, 2 from enteric fever, 9 from diarrhœa, 2 from dysentery, &c.

During the preceding week 40 cases of scarlatina were admitted to hospital—this week the admissions fell to 22. Twenty scarlatina patients were discharged during the week, 1 died, and 146 remained under treatment on Saturday, being 1 over the number in hospital on Saturday, October 9.

Eight cases of enteric fever were admitted during the week, and 5 patients were discharged, leaving 34, or 3 over the number in hospital at the close of the preceding week, under treatment on Saturday.

No cases of typhus were admitted during the week, and there were but 2 cases in hospital on Saturday.

Sixteen deaths from diseases of the respiratory system were registered, being equal to the number for the preceding week, but 14 under the average for the forty-first week of the last ten years: they comprise 11 from bronchitis and 2 from pneumonia or inflammation of the lungs.

In the week ending Saturday, October 23, the mortality in twenty-eight large English towns, including London (in which the rate was 17·7), was equal to an average annual death-rate of 19·3 per 1,000 persons living. In Glasgow the rate was 21·6; and in Edinburgh it was 18·0.

The average annual death-rate in the sixteen principal town districts of Ireland was 19·0 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·1 per 1,000, the rates varying from 0·0 in Limerick, Londonderry, Galway, Newry, Wexford, and Dundalk, to 9·6 in Sligo—the 8 deaths from all causes registered in the last-named district comprising 2 from diphtheria. Among the 88 deaths from all causes registered in Belfast are—1 from scarlatina, 2 from simple continued fever, 7 from enteric fever, and 10 from diarrhœa. One of the 2 deaths in Lurgan was caused by typhus.

In the Dublin Registration District the births registered during the week amounted to 149—76 boys and 73 girls—and the deaths to 139—64 males and 75 females.

The deaths represent an annual rate of mortality of 20·5 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 19·5 per 1,000.

Twenty-five deaths from zymotic diseases were registered, being 7 over the number for the preceding week, but 2 under the average for the forty-second week of the last ten years; they consist of 7 from scarlet fever (scarlatina), 1 from diphtheria, 1 from cerebro-spinal fever, 5 from enteric fever, 9 from diarrhœa, 1 from dysentery, and 1 from erysipelas.

Twenty cases of scarlatina were admitted to hospital during the week, being 2 under the admissions for the preceding week; 23 scarlatina patients were discharged, 2 died, and 141 remained under treatment on Saturday, being 5 under the number in hospital at the close of the preceding week.

There was but 1 case of typhus admitted during the week, and 2 cases only remained under treatment in hospital on Saturday.

Seven cases of enteric fever were admitted, being 1 under the admissions for the preceding week; 5 patients were discharged, 3 died, and 33 remained under treatment on Saturday, being 1 under the number in hospital on Saturday, October 16.

Twenty-two deaths from diseases of the respiratory system were registered, being 6 over the number for the preceding week, but 7 under the average for the forty-second week of the last ten years; they comprise 12 from bronchitis, 5 from pneumonia or inflammation of the lungs, and 3 from croup.

In the week ending Saturday, October 30, the mortality in twenty-eight large English towns, including London (in which the rate was 17·4), was equal to an average annual death-rate of 18·5 per 1,000 persons living. In Glasgow the rate was 23·3; and in Edinburgh it was 13·9.

The average annual death-rate represented by the deaths registered last week in the sixteen principal town districts of Ireland was 19·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·2 per 1,000, the rates varying from 0·0 in eleven of the districts to 4·4 in Dundalk—the 4 deaths from all causes tabulated for the last-named district comprising 1 from diarrhœa. Among the 74 deaths from all causes registered in Belfast are—1 from scarlatina, 1 from typhus, 1 from ill-defined fever, 1 from enteric fever, and 7 from diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 183—102 boys and 81 girls—and the deaths to 148—77 males and 71 females.

The deaths represent an annual rate of mortality of 21·9 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 21·4 per 1,000.

Twenty-three deaths from zymotic diseases were registered, being 3 below the average for the corresponding week of the last ten years, and 2 under the number for the week ended October 23—they consist of 10 from scarlet fever, 1 from ill-defined fever, 3 from enteric fever, and 9 from diarrhœa.

Thirty-five cases of scarlatina were admitted to hospital during the week, being 15 over the admissions for the preceding week; 35 scarlatina patients were discharged, 2 died, and 139 remained under treatment on Saturday, being 2 under the number in hospital at the close of the preceding week.

No cases of typhus were admitted, and there was only 1 case in hospital on Saturday.

Six cases of enteric fever were admitted to hospital, being 1 under the admissions for the preceding week; 4 patients were discharged during the week, 4 died, and 31 remained under treatment on Saturday, being 2 under the number in hospital on Saturday, October 23.

Twenty-four deaths from diseases of the respiratory system were registered, being 2 over the number for the preceding week, but 11 under the average for the 43rd week of the last ten years. They comprise 13 from bronchitis, and 6 from pneumonia or inflammation of the lungs.

In the week ending Saturday, November 6, the mortality in twenty-eight large English towns, including London (in which the rate was 16·8), was equal to an average annual death-rate of 18·2 per 1,000 persons living. In Glasgow the rate was 24·0; and in Edinburgh it was 24·7.

The average annual death-rate in the sixteen principal town districts of Ireland was 21·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·3 per 1,000, the rates varying from 0·0 in Londonderry, Waterford, Galway, Kilkenny, Dundalk, Lisburn, Lurgan, and Armagh, to 9·6 in Sligo—the 3 deaths from all causes registered in the last-named district comprising 1 from whooping-cough and 1 from diphtheria. Among the 89 deaths from all causes registered in Belfast are—1 from scarlatina, 1 from typhus, 3 from enteric fever, and 6 from diarrhœa; and the 5 deaths in Drogheda comprise 1 from scarlatina and 1 from whooping-cough.

In the Dublin Registration District the births registered during the week amounted to 184—83 boys and 101 girls—and the deaths to 177—85 males and 92 females.

The deaths represent an annual rate of mortality of 26·1 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 25·4 per 1,000.

Thirty-four deaths from zymotic diseases were registered, being 8 over the average for the corresponding week of the last ten years, and 11 over the number for the week ended October 30. They comprise 8 from scarlet fever (scarlatina), 1 from whooping-cough, 4 from diphtheria, 6 from enteric fever, 13 from diarrhœa, &c.

Twenty-four cases of scarlatina were admitted to hospital, being 11 under the admissions for the preceding week; 40 scarlatina patients were discharged, 3 died, and 120 remained under treatment on Saturday, being 19 under the number in hospital at the close of the preceding week.

Eleven cases of enteric fever were admitted to hospital during the week, being 5 over the admissions for the preceding week; 6 patients were discharged, and 36 remained on Saturday, being 5 over the number in hospital on Saturday, October 30.

Two cases of typhus were admitted during the week; there were but 3 cases in hospital at the close of the week.

Twenty-one deaths from diseases of the respiratory system were registered, being 14 below the average for the corresponding week of the last ten years, and 3 under the number for the week ended October 30—they comprise 11 from bronchitis and 5 from pneumonia or inflammation of the lungs.

METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N.
Long. 6° 15' W., for the Month of October, 1886.*

Mean Height of Barometer,	-	-	-	29·760 inches.
Maximal Height of Barometer (on 24th, at 9 p.m.),				30·378 „
Minimal Height of Barometer (on 15th, at 1 p.m.),				28·530 „
Mean Dry-bulb Temperature,	-	-	-	51·4°.
Mean Wet-bulb Temperature,	-	-	-	49·7°.
Mean Dew-point Temperature,	-	-	-	47·9°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-			·337 inch.
Mean Humidity,	-	-	-	88·2 per cent.
Highest Temperature in Shade (on 5th),	-	-	-	64·6°.
Lowest Temperature in Shade (on 22nd),	-	-	-	36·2°.
Lowest Temperature on Grass (Radiation) (on 22nd),				29·0°.
Mean Amount of Cloud,	-	-	-	59·7 per cent.
Rainfall (on 24 days),	-	-	-	6·163 inches.
Greatest Daily Rainfall (on 15th),		-	-	1·560 „
General Directions of Wind,	-	-	-	S.W., E., N.E.

Remarks.

A genial month as regards temperature, but rain fell heavily and well-nigh incessantly during the first three weeks—5·582 inches being measured on 18 out of the first 19 days. It is to be observed that October is, on the average, the month of the greatest precipitation in Dublin—3·025 inches. On the 23rd the barometer rose decidedly, and drying winds from E.N.E., of considerable strength, set in, and continued to blow for several days. Some bright sunshine was enjoyed at the close of the month, the 31st being an exceptionally fine, clear day.

In Dublin the mean temperature ($52\cdot0^{\circ}$) was 2° above the average ($50\cdot0^{\circ}$); the mean dry bulb readings at 9 a.m. and 9 p.m. were $51\cdot4^{\circ}$. In the twenty-one years ending with 1885, October was coldest in 1880 (M. T. = $45\cdot4^{\circ}$) and warmest in 1876 (M. T. = $53\cdot1^{\circ}$). In 1885, the M. T. was only $45\cdot5^{\circ}$; in the year 1879 (the cold year) it was $49\cdot7^{\circ}$.

The mean height of the barometer was 29·760 inches, or 0·087 inch below the average value for October—namely, 29·847 inches. The mercury rose to 30·378 inches at 9 p.m. of the 24th, and fell to 28·530 inches at 1 p.m. of the 15th. The observed range of atmospherical pressure was, therefore, 1·848 inches—that is, more than an inch and three-quarters. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was $51\cdot4^{\circ}$, or $4\cdot2^{\circ}$ below the value for September, 1886; that calculated by Kaemtz's formula—viz., $\text{min.} + (\text{max.} - \text{min.} \times \cdot 41) = \text{Mean Temp.}$ —from the means of the daily maxima and minima was $51\cdot2^{\circ}$, or precisely 2° above the average mean temperature for October, calculated in the same way, in the twenty years, 1865–84, inclusive ($49\cdot2^{\circ}$). The arithmetical mean of the maximal and minimal readings was $52\cdot0^{\circ}$, compared with a twenty years' average of $50\cdot0^{\circ}$. On the 5th the thermometer in the screen rose to $64\cdot6^{\circ}$ —wind S.S.E.; on the 22nd the temperature fell to $36\cdot2^{\circ}$ —wind calm. The minimum on the grass was $29\cdot0^{\circ}$ on the same date. The rainfall was 6·163 inches, distributed over as many as 24 days. The average rainfall for October in the twenty years, 1865–84, inclusive, was 3·025 inches, and the average number of rainy days was 17·2. The rainfall and the rainy days, therefore, were both largely above the average—the rainfall more than one hundred per cent. In 1880 the rainfall in October was very large—7·358 inches on, however, only 15 days; 2·736 inches being measured on the 27th alone in that year—and in 1875, 7·049 inches fell on 26 days. On the other hand, in 1884, only ·834 inch was measured on but 14 days. In 1868 also—the “warm year”—the October rainfall was only ·856 inch on 15 days.

A lunar halo was seen on the 6th. The atmosphere was foggy on the 6th and 8th. High winds were noted on as many as 13 days, gales prevailing on four days. Hail fell on the 10th.

At the beginning of the month southerly winds prevailed, and the

weather was fine in the east of Ireland and in England. On the 1st the thermometer in the shade rose to 80° at Cambridge, 78° in London, 73° at Oxford, and 72° at Loughborough, but only to 59.7° in Dublin. On the evening of the 2nd a depression off the west of Ireland brought to that country a southerly gale and heavy rains.

The weather of the week ending Saturday, the 9th, was for the most part cloudy, unsettled, and rainy in Ireland and Scotland; but in England the earlier part of the period was fine and unusually warm for the time of year. On Monday, the 4th, the thermometer exceeded 75° in many parts of England, the highest reading of all being 80° in London and at Cambridge. On Saturday a deep depression appeared in the west, moving northwards and occasioning fresh S.E. or S. gales and rain in most places.

During the week ending the 16th, very unsettled conditions were prevalent. Strong winds or gales and heavy rains were experienced in nearly all parts of the United Kingdom, and on the 15th and 16th a storm of exceptional violence caused much damage to life and property. Atmospheric pressure was continuously highest in Spain, while several depressions appeared over the British Islands—the most important being that of the 15th and 16th. This system advanced over Ireland on the night of the 14th, the readings of the barometer in its centre ultimately falling as low as 28.5 inches. In the course of Friday morning (the 15th) the disturbance travelled eastwards to the Irish Sea, with its centre a short distance north of Dublin, where the wind was light and fitful, blowing first from S.E. and then from W.S.W. After remaining almost stationary for some hours, the cyclone (for such it was) travelled in a S.E. direction to the south of England and afterwards to the north-east of France, finally dispersing over Holland on the 17th. The depression produced fresh E. gales in the north and fresh S.E. or S. gales in the east of our islands; but over the English Channel, the Bay of Biscay and the S.W. of England the wind blew a most severe gale, first from S.W. and afterwards from N.W. or N. During the progress of the disturbance heavy rain was experienced in nearly all parts of the United Kingdom. In Dublin the rainfall on the 14th and 15th was 2.090 inches, or one-third of the precipitation for the whole month and more than two-thirds of the average rainfall for October.

The weather of the period from the 17th to the 23rd was much quieter than that of the preceding week, but conditions were by no means settled, and several shallow depressions appeared, chiefly in the S. Temperature did not differ greatly from the normal, but towards the close night frosts were reported from the inland parts of Great Britain and Ireland—in Dublin the minimum was 36.2° on the 22nd.

In the last week (24th–31st) atmospheric pressure was highest (30.5 inches, or upwards) over Scandinavia and the Baltic, and, as a rule,

lowest over the Bay of Biscay and off the S. and S.W. of Ireland. Easterly winds prevailed, of greatest strength on the 25th. In Dublin the weather was at first dry and bracing, afterwards changeable, with sunny spells by day and rain or showers by night. The 31st was a brilliant, summer-like day.

PERISCOPE.

PERIPHERAL NEURITIS IN TABES.

PITRES and Vaillon have been engaged for some time past in investigating the condition of the peripheral nerves in certain affections, notably typhoid fever and tuberculosis. In the *Revue de Médecine*, July, 1886, they publish the results of their further investigations of the peripheral nerves in tabes. According to these authors, Pierret was the first, in 1880, to assert that the cranial and spinal nerves, as well as the optic, in tabes might become the seat of changes without any direct continuity with the recognised changes in the central nervous system. But his assertion was not backed by pathological demonstrations. Déjerine, in 1882, communicated to the Société de Biologie of Paris, the history of a case of tabes in a woman who, while living, had presented patches of anæsthesia. At the autopsy the cutaneous nerve-branches corresponding to these patches were found to have undergone profound alterations. Peripheral neuritis in tabes dates from that period. In their paper the authors embody a *résumé* of all the published cases since 1882—seven in number—together with full clinical and pathological notes of five cases which they themselves have observed. The microscopic appearances of the nerves differ in no respect from the well-recognised changes of non-traumatic neuritis. In the majority of the cases it is the extreme terminal branches of the cutaneous motor and sensory nerves that are implicated, and, on examining several segments of the same nerve, that which is most peripheral shows the changes in the most marked degree. In a few exceptional cases the nerve-trunk is involved, while the peripheral branches remain intact. A relative dependence of the changes in the nerves on the changes in the cord has still to be demonstrated, for in one case in which the spinal sclerosis was symmetrical, the peripheral neuritis was limited to one side. A great many of the incidental symptoms in the course of tabes find their explanation in the existence of a peripheral neuritis. Such are the anæsthesias and analgesias, the palsies, certain cases of muscular atrophy, and various trophic disturbances of the skin, nails, joints, bones and teeth. The trophic disturbances of the skin are manifested by various eruptions—in one of the cases there was a desquamative ichthyosis. The disorders in the nutrition of the joints form the *arthropathies des ataxiques* of Charcot, which are not

infrequently met with. Falling into the same category are the spontaneous fractures of the bones sometimes met with in tabes. The authors arrive at the following conclusions:—1. That the peripheral nerves in tabes are, without doubt, often the seat of inflammatory changes. 2. That the neuritis in tabes does not differ in its anatomical characters from the other now well-known non-traumatic neuritides. 3. That the nerves affected vary much in different subjects; the changes may attack the sensitive, mixed, or visceral nerves. 4. That in the majority of the cases, but not in all, the changes begin in the extreme terminal branches. 5. That the extent and gravity of the neuritis bear no relation to the age of the patient, or to the extent or severity of the medullary lesion. 6. That the neuritis plays no rôle in producing the specific symptoms of tabes, but forms the cause of certain inconstant symptoms that occur. 7. That the visceral crises of ataxics may, in some cases, be due to the neuritis. In a footnote the authors state that Pierret has recently made another communication to the Academy of Sciences, in which he asserts the great frequency and curability of peripheral neuritis in tabes. Pierret adds that the existence of a peripheral neuritis concomitant with a central lesion offers a new view of chronic inflammation. That is to say, without ceasing to be systematic, lesions may occur in different parts of the nervous system without the intervention of conducting or intermediate lesions.—*N. Y. Med. Jour.*, Oct. 9, 1886.

TRACHEOTOMY IN AN INFANT ONE YEAR OLD.

FOR œdema glottidis consecutive on abscess of the tonsils, M. H. Katterfeld successfully performed tracheotomy (*Deutsche med. Wochenschrift*, 1886, No. 28).—*Gazette Heb. de Med. et de Chirurg.*, Sept. 17, 1886.

THE COCAÏN HABIT.

DR. J. B. MATTISON, of 314 State-street, Brooklyn, New York, U.S.A., announces that he is preparing a paper on the subject of "Cocaïn Addiction," or—as we have ventured to term it—"The Cocaïn Habit." He asks for full information respecting any cases of the habit which may have come under the notice of the readers of the *Dublin Journal of Medical Science*, and will be glad to acknowledge his indebtedness in his forthcoming paper.

CONDURANGO WINE.

M. WILHELMY recommends Condurango wine to relieve the pain of cancer of the stomach. He has also found it particularly valuable in chlorosis, ulcer of stomach, gastric catarrh, and for stimulating an appetite in phthisical patients.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, Sept. 17, 1886.

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